THE BUILDER
A JOURNAL FOR THE ARCHITECT & CONSTRUCTOR

VOL. CXLII. FEBRUARY 19, 1932. No. 4646.

Hay's Wharf New Head Offices, Southwark: Entrance.

MR. H. S. GOODHART-RENDEL, F.R.I.B.A., Architect.

MEETINGS

FRIDAY, *February* 19.

London Society. Mr. Lawrence Tanner on "Recent Discoveries in Westminster Abbey." 5 p.m.

Iron and Steel Institute of Scotland. Mr. W. H. Hatfield on "Progress in Steel Metallurgy as regards Resistance to Corrosion." 7.15 p.m.

Reading and District Building Trades Employers' Association. Mr. Sydney Tatchell on "The 1931 Form and Conditions of Contract." At Masonic Hall, Greyfriars-road, Reading. 6.15 p.m.

Illuminating Engineering Society. Discussion on "Lighting of Churches and Cathedrals." 7.15 p.m.

Institution of Mechanical Engineers. Annual General Meeting. 5.30 p.m.

SATURDAY, *February* 20.

Institution of Municipal and County Engineers. South Wales District Meeting. At Cardiff. 2.15 p.m.

Institution of Municipal and County Engineers. Joint Meeting of the North-Western and Yorkshire Districts. At Sheffield. 1 p.m.

Institution of Municipal and County Engineers. South-Eastern District Meeting. At Mitcham. 11.30 a.m.

MONDAY, *February* 22.

Bermondsey Central Library. Mr. Percy W. Lovell on "Bridges of London."

Architectural Association. Mr. R. Minton Taylor on "Evolution of the Sailing Ship." 8 p.m.

MONDAY-SATURDAY, *February 22-March 12.*

Architectural Association. Exhibition of Sailing Ships. 10 a.m.-10 p.m.

TUESDAY, *February* 23.

Institution of Civil Engineers. Discussion on "Pressure on Retaining Walls." 6 p.m.

WEDNESDAY, *February* 24.

L.C.C. Central School of Arts and Crafts. Sir Banister Fletcher on "English Renaissance, 1500-1900." 6 p.m.

Royal Society of Arts. Mr. Alexander Scott on "The Romance of Museum Restoration." 8 p.m.

Manchester Society of Architects. Hon. Humphrey A. Parkington on "Sense and Sentiment in Architecture." At the University. 8 p.m.

Electric Lamp Manufacturers' Association. Lecture on "Illumination Design." At 15, Savoy-street, W.C.2.

Institution of Civil Engineers. Mr. R. R. W. Grigson on "Practical Observations on the Construction of a Concrete Road," 6.30 p.m.

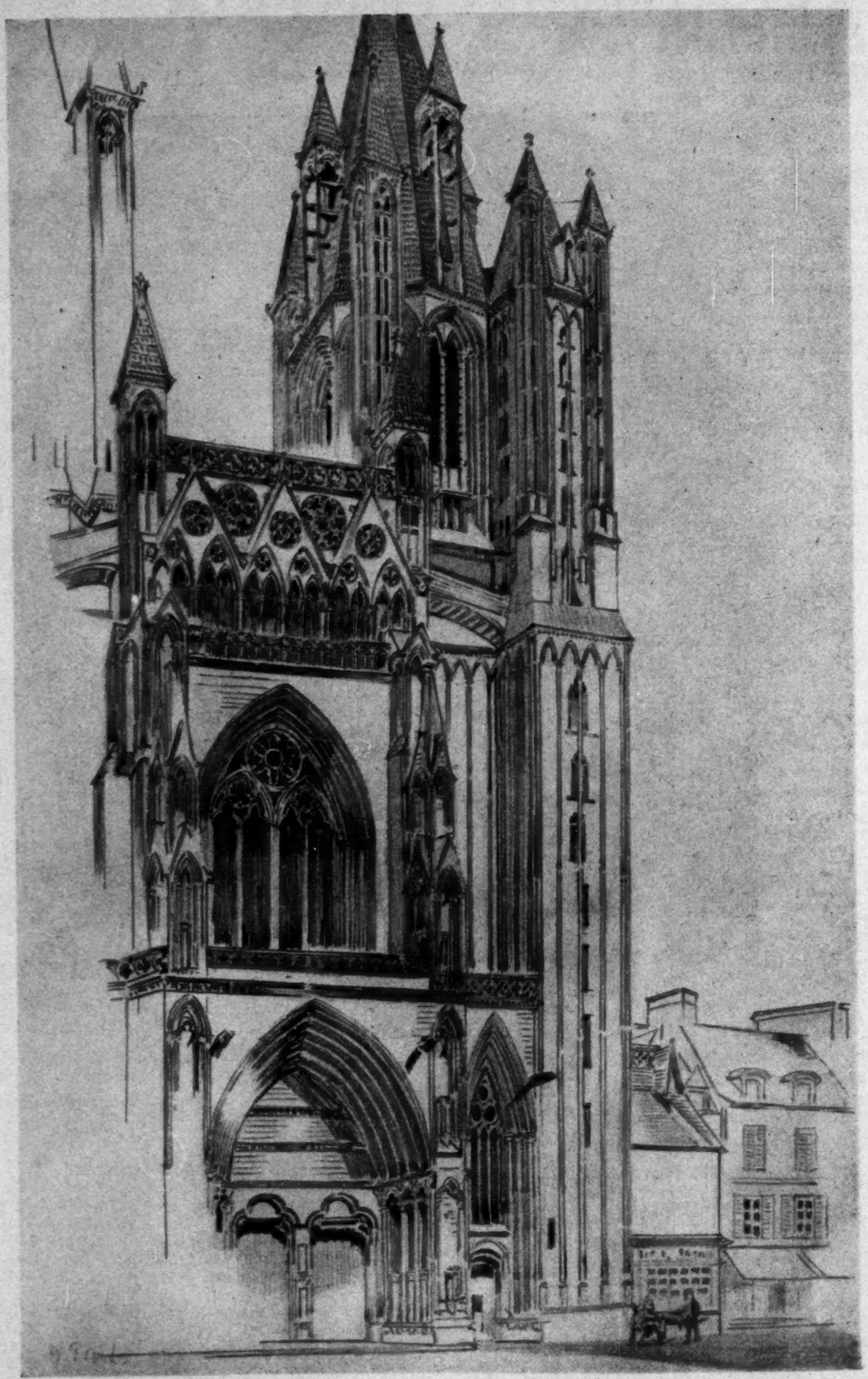
THURSDAY, *February* 25.

Wood Green Public Lectures. Mr. Claud W. Dennis on "Old City Churches." At the Public Library.

Society of Antiquaries. Archdeacon H. J. Buxton and Mr. W. H. Buckler on "Byzantine Wall Paintings of Panagia Asinou, Cyprus." 8.30 p.m.

Institution of Municipal and County Engineers. Southern District Meeting. At Abingdon. 10 a.m.

Institution of Structural Engineers. Mr. Hugh Davies on "Modern Development in Surface Treatment." 6.30 p.m.



Coutances Cathedral: West Front.

From a pencil drawing by the late W. R. LETHABY.

AN ARCHITECTURAL TEACHER

THOSE who were present at the well-attended meeting of the Royal Institute of British Architects on Monday and listened to Sir Reginald Blomfield's appreciation of the late W. R. Lethaby, probably did so to pay a tribute to a thinker who devoted a lifetime to the study of the building arts—to one who, though an architect by training and profession, carried out very little architectural work himself—and yet whose literary work is a living and vital force which may well outlast most of the architectural works erected in his time. And to the friends and admirers of Lethaby it was altogether fitting that this meeting should have been arranged to give consideration to the work of one whose influence on architectural thought, already definitely felt in some directions, may be of increasing importance to the building arts, of which architecture is one expression. But though the meeting afforded this opportunity, of which advantage was taken by many friends and admirers of Lethaby, it must have been realised that, while a tribute could be paid in this way to a philosopher and thinker who has made an unique position for himself in the arts and crafts movements of our time by the earnestness and sincerity of his study, it was impossible to explore the extent of his contribution to our knowledge in the short space of an evening meeting. His value as a constructive thinker will be decided by those who follow us, but we may be sure that his convictions, expressed during a long life of work and effort, will stimulate thought in others and will not be lightly set aside. "His influence on his contemporaries was incontestable," said Sir Reginald, "partly because it was so entirely different from what anybody else was saying at the time and partly because Lethaby himself was sincere in his convictions and he never wavered in his faith that the mainspring of all art should be the service of the community, and that its realisation was to be found only in doing, loyally and sincerely, the work in hand, whatever it might be."

No one who had the privilege of knowing Lethaby, or who has read the contributions on his "wit and wisdom" which appeared in our pages last month, could fail to be impressed by his personality—his seriousness of purpose, his unselfishness, his love of truth and beauty, his striking paradoxes, his humour, knowledge and wisdom. With few exceptions his sayings and paradoxes have a subtle where not an obvious meaning, and as aphorisms or maxims they challenge thought, as they were intended to do. Many of them could be used as texts for sermons or subjects for debate and are certainly matter for serious consideration by those who indulge in the rare art of thinking.

But though we cannot fail to be impressed by such a personality and by wisdom which at times suggests the insight of genius, it would be absurd to accept all these *obiter dicta* without question. Some of them are but half truths, and therein lies a danger which we have to guard against in a too ready acceptance. Let us take, for instance, the paradox: "Building blesses; architecture curses." Within the narrow limits of definition it may be possible to agree, but why should we not invert the paradox and assert that "Architecture blesses, and building curses?" Judged by our conviction of what architecture is, this inversion might satisfy us more, but the paradox would be as much non-sense in the one case as the other. Architecture, of course, blesses as much as building, for it is building serving its purpose, but expressed nobly, and that, of course, Lethaby believed. It is the terms that confuse and the fact that so much that is called architecture is nothing of the kind.

The whole of Lethaby's life was no doubt coloured by his social and ethical views. As Sir Reginald said, Lethaby hated the idea of the "pundits," "mystery men," and "high priests" of architecture, as he called them. "He wanted art to come down into the street and the market-place, divest itself of all trappings, and devote its energies to the simplest, neatest and clearest realisation of the purpose in hand." And if we are inclined to doubt whether he "hated Renaissance architecture because he thought it was the architecture of the rich and powerful and not the architecture of the humble man," and may agree with Professor Pite that Lethaby had something of a universality of outlook on art, at the same time we may think he was not apparently tolerant of the development of the Renaissance architecture as practised to-day.

This is an inquiring age and therein lies our hope, for the easy acceptance of established beliefs as to art and life may have a sterilising effect in our work and conduct. Lethaby's contribution, therefore, as a thinker and stimulator of thought is welcome in the realm of art and craftsmanship, provided we make use of it, not as the last word of inspiration, but as matter for inquiry on our part. Though we can agree that all is not well with much of our architecture and our talk about architecture, to the youth movement in art, restless for change because "we cannot stand still," we may urge caution in accepting Lethaby without question as a witness in their cause. He was too well grounded in a knowledge of traditional work to tolerate the eccentricities of much modern work. Though he was fully aware of the "ever-changing" conditions with which architecture must ever vary and held that the essential architecture is still structure and the method of architectural growth is by continuous experiment in the possibilities of structure, he safeguarded himself from being thought to urge any quest of originality. Quite the reverse, he says, "I am satisfied that all search for it just blocks the way, with our preconceptions and limitations, to any possibility of realising a true originality which properly is of the root, not of the appearance. True originality is to be found by those who, standing on the limits of the sphere of the known, reach out naturally to some apprehension and understanding of what is beyond; it is the next step in an orderly development."

In his Architecture of Adventure, Sir Reginald reminds us, Lethaby "urged that the living stem of building design can only be formed by following the scientific method, and by this he meant the study of scientific methods of building construction . . . . in it is implicit the only justifiable basis of the slogan of the new architecture, that the whole function of architecture is efficiency and, provided that the term is properly interpreted, we should all accept the theory; the only comment that I have to make is that it is a superfluous truism."

That Lethaby's thoughts on architecture are in accord with some of the best minds of the times can be shown in much that he wrote. In his ideas on "tidying up," as he calls it, of our towns and cities, we may see much to help us. In his admirable address at the Informal Conference at the R.I.B.A. in 1917, for instance, there is matter for thought for our civic societies and especially for architects. Though too much blame for the architectural standard of our streets and cities may be attributed to architects, we certainly cannot say we are blameless in the matter, and even if our sins are not always those of commission, there may be those of omission in our inaction in leaving the despoilers of our buildings free to disgrace our best efforts.

Reference was made in the course of the discussion to the numerous post-war articles which Lethaby contributed to *The Builder*, beginning at the close of the war and terminating with his illness and death. Considering the quality and variety of the articles, we think these contributions constitute something of a record, and we are glad to know that during the discussion suggestions were made that some, at least, of these articles should be republished in book form. These articles are a valuable contribution to our knowledge of architecture, art and kindred matters, and though they occasionally support the view that Lethaby's enthusiasm at times blinded him to the hard facts of life, their publication in book form will do something to perpetuate an influence which did not cease with death.

NOTES

"Economy" in the Building Industry.

We made some comments last week on the terms of the reply of the Minister of Health to the deputation representing the building industry which waited on the Minister on the 4th inst. We published in the same issue the views of Mr. H. B. Bryant, Secretary of the Advisory Council of the Building Industry on the Minister's reply. It is to be hoped that even now the Government will reconsider their attitude towards the industry and will note the interpretation of many of the local authorities of the circular of the Ministry last September. There can be no doubt many local authorities cut down their building programmes without considering whether or not contemplated work would be desirable in the circumstances, and a further circular from the Ministry to the local authorities would probably result in a reconsideration by the local authorities of their previous decisions.

How "Economy" Works.

We take the following from the speech of Dr. Raymond Unwin, President of the Royal Institute of British Architects, in a speech at the tenth dinner of the Norfolk and Norwich Association of Architects. "We were supporting 250,000 men in the building industry who had no work to do. We were paying them 20s. to 30s. a week for doing nothing. If one wanted to employ a few extra hands on a cottage to give it a little better finish, we were told that that little bit of additional labour could not be afforded. It was time we began to do more thinking. Every small cottage that we did not build cost us out of our pocket for unemployment pay £75 to £100. Instead of paying someone to build cottages we were paying £75 to £100 to someone not to build a cottage. That was an idea of economy we had been driven into." How it affects the industry may be judged from a letter we have received from a correspondent in a certain district, who gives a sad record of old-established firms failing as a result of their mistaken efforts to secure work at too low a rate. Of course, every builder must judge for himself, but nothing but disaster can follow cutting down prices to an unremunerative figure.

Waterloo Bridge.

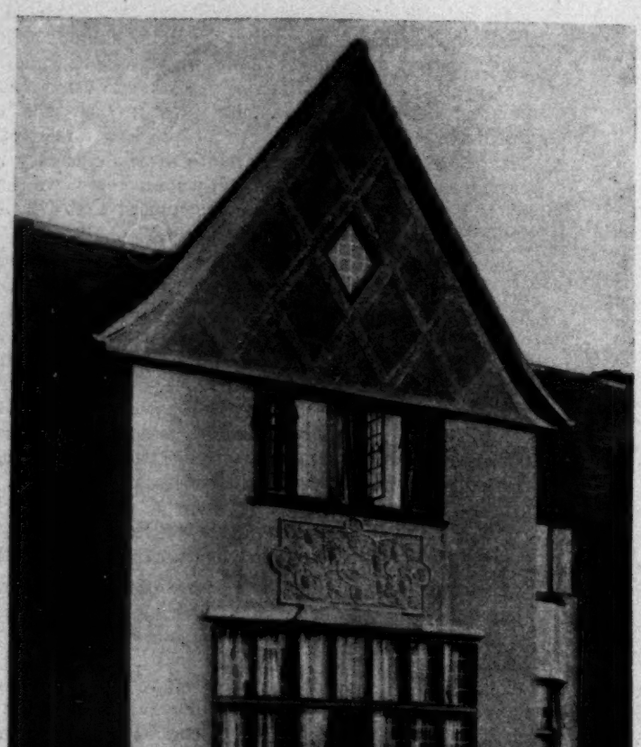
Is it creditable that we have had to make an appeal for the preservation of Waterloo Bridge largely on practical grounds, and that its status as a national and artistic object appears to carry little weight with those who have decreed its destruction? Surely there has been a sufficiently wide influential appeal made on its behalf and little could be added to what has been so ably said. Here is one of the finest bridges in Europe which is a valuable national asset, making through its close association with Somerset House one of the finest city groups in the world. It has been clearly stated that this fine bridge can be reconditioned for some £800,000, and that it can be made to answer all traffic purposes for a long time to come. Why, then, must we build a new bridge at a cost of a million and a quarter pounds to provide accommodation for traffic that the Strand cannot cope with, and in addition to this have to bear the cost of demolishing Waterloo Bridge? A much clearer issue it would be hard to find, and surely it is one which could have been clearly enough appreciated by the County Council. If London so little appreciates the advantages which lie at her door she may deserve a six-line bridge.

"A Tragic Mistake."

Considering the weight of opinion which has been evoked by the action of the County Council in its treatment of Waterloo Bridge, one is inclined to ask how it can be that so little regard is paid to the best opinion which can be commanded for the preservation of our valued amenities. Mr. Norman said the Council was going to make a tragic and irreparable mistake if it destroyed the bridge, and that is probably the opinion of the bulk of educated opinion.

Architectural Opinion.

What architectural opinion on the question is will be gathered from the remarks of Sir Reginald Blomfield, M.A., R.A., who, in the course of a paper on the work of W. R. Lethaby, read at the meeting of the R.I.B.A. on Monday, said:—"In spite of all that has been said, Waterloo Bridge is in serious danger of arbitrary destruction. In spite of all the incontrovertible arguments for its preservation, though traffic and town planning experts have agreed that a six-line Waterloo Bridge would be worse than useless for traffic unless millions are spent on a new North and South thoroughfare, though all educated opinion realises that Waterloo Bridge in conjunction with Somerset House forms one of the finest monumental compositions in the world, and architects know that a new bridge here, whether designed by "architects of the highest standing and repute," or of no repute at all, will irretrievably ruin that composition, though Waterloo Bridge is endeared to all Londoners by countless associations, and though the bridge can be reconditioned and widened to the full extent that is of the slightest use at a tithe of the cost in time and money—in spite of all this the Improvements Committee of the London County Council have decided on the destruction of the bridge, and the Government have been weak-kneed enough to encourage this disastrous folly by offering to pay 60 per cent. of the cost, at the taxpayers' expense, though it is still doubtful whether the Budget will balance, and it is quite certain that the taxpayer is taxed beyond endurance

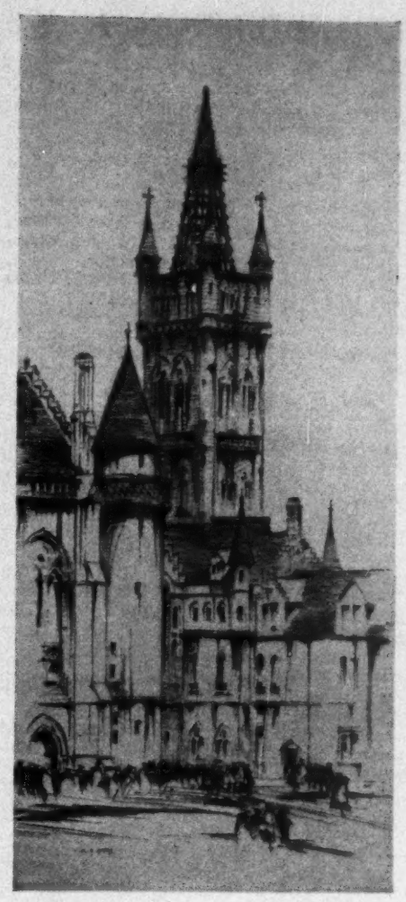


A Plaster Gable, Great Glen, Leicester.

and to an extent that is crippling industry. I would urge all members of the Institute to do all in their power to save the bridge, and so to justify the proud claim of the Institute that it exists 'usui civium, decori urbium'."

Lethaby's Drawings. We recommend to the earnest architectural student the small exhibition now on view at the R.I.B.A. of work by the late Professor Lethaby. These drawings portray with truth and fidelity the various subjects illustrated—architecture, sculpture, or landscape. If it is a drawing of a stone structure, the texture of the stone is conveyed, if wood the texture of wood, and so forth. The draughtsmanship is without trick or mannerism, the drawings being the work of an artist, which many draughtsmen are not. Lethaby was an artist who understood and loved his subject, and so delineated it with truth and sincerity, and we wonder if this can be said of many draughtsmen to-day. The drawings by Lethaby, to those who have eyes to see and appreciate their beauty and refinement, will at all times be a constant pleasure, and they express the charm and character of their author.

Standard Method of Measurement Committee. Since the current edition of "The Standard Method" was published in 1922, with a view to setting up a generally accepted standard upon which bills of quantities should be prepared, an object which it has in large measure achieved, there have arisen questions as to the interpretation of some of the clauses, and various revisions have also been suggested by persons interested. The Committee consists of representatives of the National Federation of Building Trades Employers, the Institute of Builders, and the Chartered Surveyors' Institution. After many years of hard and unselfish work, Mr. J. M. Theobald, F.S.I., secretary to the committee, has found it necessary to retire. The warmest thanks of all quantity surveyors are due to Mr. Theobald for his long and useful services in this capacity. His successor is Mr. E. C. Harris, F.S.I. From various causes the personnel of the committee has recently been reconstructed. After many years of valuable service Mr. A. G. Cross (chairman) has retired from that position, but will continue to be a member of the committee. His place as chairman will be taken by Mr. P. F. Gleed, F.S.I., whose father, the late Mr. R. C. Gleed, F.S.I., took so prominent a part in the production of the original edition. Owing to the vacancy caused through the death last year of the vice-chairman, Mr. R. B. Friend, Mr. F. Woods has been elected to occupy this office; he, together with Mr. George Elvins, of Birmingham, and Mr. Raymond Bennett, of Ipswich, are the representatives of the National Federation of Building Trades Employers. The Institute of Builders is still represented by Mr. Lacey, of Hounslow. The remaining members of the committee (representing the Chartered Surveyors' Institution) are Mr. H. Vale, F.S.I., Wolverhampton, and Messrs. S. L. Porter and R. W. Francis, FF.S.I., London.



Glasgow University: West Quad.

From an etching by Mr. A. G. Paton.

Excavations at Fort Pitt, Chatham. During excavating operations that are being carried out at Fort Pitt, Chatham, under the direction of the County Architect for Kent, Mr. W. H. Robinson, F.R.I.B.A., some human and animal remains have been discovered, as well as pieces of pottery and miscellaneous objects. It would appear that this was most likely a Roman site, for several of the remains indicate a Roman origin. A small wheel-made pot with a bead rim, made of a hard gritted ware, is among the remains. Though perhaps dating from the period of Roman influence in Kent, the pot is a typically native product and certainly does not date later than 50 B.C. The lower portion of a large pottery vessel was found, but in the absence of any indication of the shape of the upper portion of the specimen, it is impossible to date it with any accuracy. The probability is, however, that the vessel dates about 200 B.C. Other pottery remains are a fragment of a straight-sided dish of black ware, of the fourth century A.D., and a small portion of the neck of a pottery flagon of the 17th century.

The British Academy of Arts in Rome. At a general meeting of the British Academy of Arts in Rome, held this month, under the Presidency of H.E. Sir Ronald Graham, Ambassador in Rome, Mr. Selwyn Brinton, M.A., F.R.S.A., was unanimously elected as an honorary member of the academy. In 1821, Mr. (afterwards Sir William) Hamilton presented to the British Artists in Rome, who had formed a life class for study among themselves, one hundred pounds, to help them with the establishment, if possible, of a British Academy. This generous gift was supplemented by others from the Duke of Devonshire, Sir Thomas Lawrence, the Duke of Bedford, King George IV., and later Queen Victoria. Among members of this Academy may be mentioned Etty, Gibson, Eastlake, Leighton, Poynter, Val Prinsep, and among Italians, Sartorio and Ettore Tito. Mr. Selwyn Brinton, who has been for many years a contributor to *The Builder*, is not only an art writer of standing, but is himself an artist both in plastic arts and painting; he made his earliest studies at Rome with the sculptor Macdonald and in the classes of the British Academy; and in his many later visits he has regularly made use of those excellent classes, which include sculpture, painting, anatomy and perspective.

The Scottish National Library. A meeting of Scottish members of Parliament last week heard parties interested in the Edinburgh Corporation Provisional Order Confirmation Bill in reference to the site in George IV Bridge proposed for the National Library. It will be remembered that Sir Alexander Grant attached to his gift of £100,000 for the erection of the National Library the condition that the new building should be erected on the site of the Sheriff Court. The second reading of the Bill has been postponed, and we are glad to take the opportunity to restate our belief, shared by many closely concerned with the Edinburgh proposals, that the placing of the proposed Library upon the wholly inadequate site of the Sheriff Court House would be an act of folly. Lord Salvesen, in the *Scotsman*, points out that the Government is pledged, if the Bill be passed, to an expenditure of approximately £250,000, and all that would be gained is a wanton destruction of property and the erection, on an inadequate site of inadequate buildings which in 150 years at most would be completely outgrown. Lord Salvesen concludes by saying: "Sir Alexander Grant insisted that his condition should be complied with, and that his £100,000 would be lost if the Order were not passed. This, of course, he is quite entitled to do; but, as the Government would save £150,000 by leaving the Sheriff Court in its present position, there would be ample funds for the erection of the section of the Library immediately contemplated and the purchase of either of the two sites on the south side of the High Street."

GENERAL NEWS

Prestonpans Memorial Cairn.

The Association for the Preservation of Rural Scotland has erected at Meadowmill, Prestonpans, the memorial cairn, which we illustrate on this page, to commemorate the Battle of Prestonpans (1745). The site chosen and granted for the purpose by the East Lothian County Council is a triangular piece of ground at a fork in the Edinburgh-North Berwick road. The stone used in the erection of the cairn is from a demolished house in the neighbourhood. The memorial consists of a stepped pyramid, concave in plan, above a square base with bevelled angles, with corner stones, and coming into the square at the apex, which is surmounted by a heavy top stone. A small panel on the main face bears the date 1745. The stone is hammer dressed, and the camber of the stepping of the courses gives a pleasing silhouette to the general mass of the cairn, which is about 10 feet high. A casket built into the cairn contains a description of its inception and its relation to the old thorn tree which formerly commemorated the battle and, having fallen into decay, has now been cut down. The casket also contains various other documents relating to the thorn tree, with photographs, a portion of the thorn tree, and a set of new coins of the realm. The cairn was designed by Mr. William Davidson, F.R.I.B.A. The builder was Mr. John Henderson, of Edinburgh.

The Architecture Club.

Mr. R. Holland-Martin, the President, gave a reception to members of the Architecture Club at Martin's Bank, Lombard-street, E.C.3, on Tuesday evening, February 16. Among those present were Sir Charles Allom, Sir Herbert Baker (the new R.A. and architect of Martin's Bank), and Messrs. Darcy Braddell, Herbert T. Buckland, H. P. Cart de Lafontaine, Arthur J. Davis, A. Trystan Edwards, C. S. Freeman, Cyril Farey, J. Harold Gibbons, Macdonald Gill, H. Austen Hall, Hamilton T. Smith, Gilbert Jenkins, A. B. Knapp-Fisher, Ian MacAlister, Charles Marriott, Edward Maufe, H. P. G. Maule, Oswald P. Milne, H. Greville Montgomery, Lionel G. Pearson, G. L. Pepler, J. Craven Pritchard, Harold Stabler, W. Braxton Sinclair, Clough Williams-Ellis, Trenwith Wills, G. Grey Wornum, A. B. Yeates, and F. R. Yerbury.

COMPETITION NEWS

New Courthouses at Hamilton.

Lanarkshire C.C. have appointed the following six architects to submit plans for reconstruction of the County Buildings, Hamilton, and the erection of new £67,000 offices and J.P. Court:—Mr. John Steel, Main-street, Wishaw; Mr. James Lochhead (Cullen, Lochhead and Brown), Cadzow-street, Hamilton; Mr. John G. Dunn, 31, Greenlees-road, Cambuslang; Mr. William Baird, jun., Main-street, Bellshill; Mr. Alexander Cullen, Cadzow-street, Hamilton; and Messrs. Cowie and Miller, Clelland-street, Wishaw.

"THE BUILDER" DEBATE

XLVIII.—ARCHITECTS AS COUNCILLORS.

SIR,—I find considerable confusion of mind in "Negative's" reply to my case; and I find it full of points which count directly in my favour. For instance, he is quite wrong in assuming that councils under the new Town Planning Bill will become arbiters of taste without technical advice in their rulings. The Ministry has issued a special memorandum advising local authorities to appoint Advisory Panels of Architects to advise them in such matters. He is wrong, therefore, on two points, viz.:—

(1) That it is the purpose of the Bill to give arbitrary powers as to architectural taste unadvised by qualified opinion; and (2) that the Advisory Panels of Architects are self-invited. On the contrary, they are directly invited by the highest authority.

But let us assume that "Negative" is correct in the first instance and that Brown the grocer, Smith the butcher, and Robinson the draper are to be given powers of life and death over the architectural future of Mudville. "Negative" says: "Let Jones the architect join up so that he can keep Brown, Smith and Robinson in order." In other words, one architect (for it is inconceivable that all the few architects of the small towns will be elected by their fellow ratepayers) will have the power to say what shall be built and what not. Is it not obvious that that man must, whether he seek it as such or not, have a definite pull over the remainder of the practising architects of the district? And that being so, is such a thing desirable? Of course it is not.

Now "Negative" very glibly states that the passing of plans is ruled by the by-laws and that the committees and councils have little else to do in the matter than raise the thumbs up or down. Actually, though the by-laws are more or less rigid, the interpretation of them is by no means so obvious, and committee work is often very involved and difficult in such circumstances.

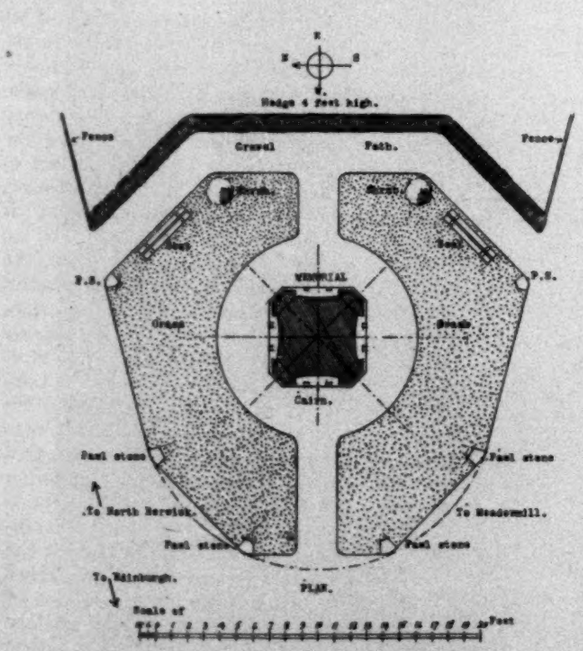
He then says there is nothing to prevent the architect-councillor from leaving the room when matters in which he is interested are the subject of discussion. This is exactly what I have pointed out as grossly unfair to the architect-councillor's client. Why should he be deprived of the very vote in the council which might turn the scale in his favour in a perfectly just case? And again, assuming the rightness of "Negative's" assumption that the council of the future is to be arbiter of taste, poor Jones the architect must leave all the jobs in which he is interested to be judged by the other unqualified gentlemen.

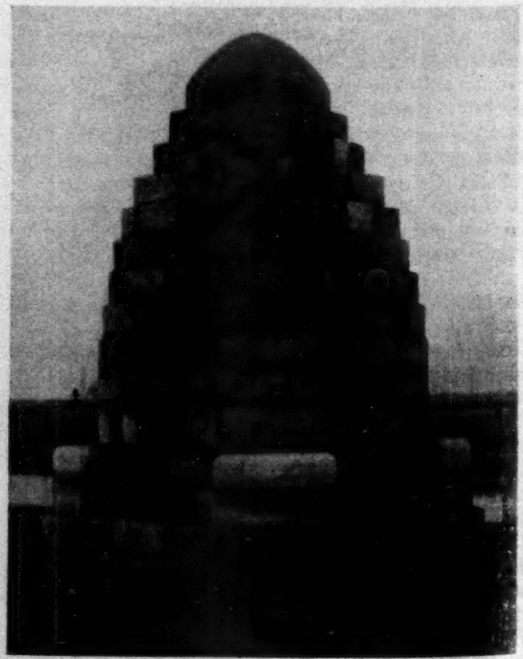
I would like to ask "Negative" if he is prepared to handicap any further his depleted practice, for the good of the community, unless he sees that the benefited community must in time reflect some measure of prosperity to the practice of architecture? It is too much to ask of any one set of ratepayers engaged in active business. The professional attitude to panels is that their work will check ugly building, improve the standard of public taste; and out of that improvement build up more stable conditions for the practice of architecture. We can expect no more than that from any architect. To ask him to make country practice any more difficult for the good of his fellow-townsmen is simply asking him to commit suicide, which the slow bleeding of to-day's conditions should make an easy matter.

I maintain, with every confidence, that the place for the architect is upon properly constituted Advisory Panels, where he can do good work far better than in the rough and tumble of general local government.

POSITIVE.

[Correspondence on this subject is invited. —ED.]





Battle of Prestonpans Memorial Cairn, Prestonpans.

MR. WILLIAM DAVIDSON, F.R.I.B.A., Architect.

CORRESPONDENCE

[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

Public Officials and Architects.

SIR,—Like "L.R.I.B.A.," I am also pleased to see that this matter has once again come to the front. Now that even men at the top are feeling the effects of the economic blizzard, we may hope to see the suppression of this reprehensible practice carried through with vigour and success.

In the provincial town where I have the misfortune to practise there has recently been a reconstruction in the arrangements of certain official departments, and a number of the members of the staffs have been retired on pension. Within the last few weeks I have met several of these men, and they told me with great glee that they were doing better financially in private practice than under official pay.

Most of what "L.R.I.B.A." says has appeared in your columns before, but has led to little or nothing effective being done. He is to be congratulated, however, on stating the case so lucidly, and deserves every support. Any system of doles, either by the R.I.B.A. or the Benevolent Society, for fit and able men is to be deprecated. Nothing but a ruthless campaign of suppression of whole-time and pensioned officials carrying on private practice can meet the case.

F.R.I.B.A.

Architects and Contracts.

SIR,—I am very interested in the correspondence appearing under "Architects and Contracts" in *The Builder*, particularly the letter by "Bystander" in the issue for February 5. I have from time to time, in course of conversation, frequently spoken about this matter to a number of architects, and in practically every instance they quite agreed that it was very unfair for a number of builders to be invited to tender for various works without any out-of-pocket remuneration to the unsuccessful firms.

May I particularly mention the case of the small firms tendering for works, say, to the value of £1,000, or thereabouts, where bills of quantities are not supplied; in this case the estimators have to visit the job and spend quite a lot of time on measuring up and afterwards the usual pricing out in the office. After this has been done and tenders submitted, it is by no means unknown for the client for some reason or other to decide to abandon the work. The loss of time occasioned thereby to the various firms is quite appreciable. It seems to me it would be quite a simple matter for the architect when drawing up the specification to allow a p.c. sum to be divided amongst the unsuccessful contractors, such sum, of course, to be at the architect's discretion, according to the size of the proposed works. I am under the impression that architects would be quite willing to do this if it was a recognised custom.

FAIR PLAY.

Quantity Surveyors and the War Office.

SIR,—I have to thank Major G. B. J. Athoe for his reply to my letter. If I stated the obvious, Major Athoe certainly overlooks the more obvious. Is it likely that he could be conversant with the ethical standards and practice of all the members of his association?

Election to membership of so-called professional and cultured societies, either by examination or some other mysterious process, does not necessarily alter a man's attitude toward ethical and economic problems. A comment is needless.

WILLIAM DAVIDSON.

Cheaper House Building.

SIR,—Though not an architect, I have made something of a study of housing conditions, especially those prevailing in London, and have been struck—as must all others who have observed the great efforts in housing being made by the London County Council, certain Metropolitan boroughs, and the charity housing trusts—by the slow progress made in rehousing, in areas convenient to them, the very poor. The Bishop of Southwark stated to the Church Assembly recently that "in London alone there are 100,000 people, the majority being children, living in unhealthy basements." This was doubtless upon good authority, and with the reductions of house building now being made, the condition is likely to intensify. Shortage of capital is doubtless the cause, and is likely to remain so, so long as the cost of housing a single family in Central London remains at the figure of £625 (the L.C.C. estimate for their five-year plan), for it is an unfortunate paradox that those who are lowest wage-earners (or in other words the slum-dwellers) must needs be rehoused in the most expensive type of dwelling, the flat-type on a central site.

Mr. H. R. Selley made a suggestion recently to which your paper on January 8 drew attention. Mr. Selley is reported as saying: "If we are to get people out of their slums, we must lay aside our usual building methods by which we have been accustomed to build, as one may say, for eternity, and try to devise some form of light steel-frame construction that will last for about 20 years and lower building costs."

This statement, from the Chairman of the L.C.C. Housing Committee, is surely significant, yet I have seen no signs that architects have taken the matter up. I am aware, of course, that cheap construction may be accompanied by high maintenance costs, but the task of designing block dwellings in some form of construction that shall be reasonably permanent and yet cheaper cannot surely be beyond the powers of our architects to-day.

W. D. J. MACRAE.

The Royal Gold Medal.

Intimation has just been received that His Majesty the King has approved the award of the Royal Gold Medal to Dr. Hendrik Petrus Berlage (Honorary Corresponding Member R.I.B.A.) of Holland, in recognition of his distinguished services to architecture and town planning. The medal will be presented to Dr. Berlage at a general meeting of the Royal Institute on Monday, March 7, at 9 p.m.

OBITUARY

John Dunn, F.R.I.B.A.

We regret to record the death of Mr. John Dunn, F.R.I.B.A., on February 10, at his residence, 25, Montagu-square, at the age of 82. Mr. Dunn became an Associate of the Royal Institute of British Architects in 1876, and a Fellow in 1884; at the time of his death he was fourth senior Fellow. He succeeded his father as private secretary, and later became agent, architect and surveyor to the Duke of Norfolk. He designed and rebuilt practically the whole of the Duke's London estate during the last 50 years, and continued to act as agent to the Duke till his death.

As a young man he helped to complete the building of St. Philip's Catholic Church at Arundel, under his father. One of his earlier building schemes was the planning and surveying of many miles of roads and hundreds of villas at Littlehampton. He also did extensive laying-out of property at Walthamstow for the Law Land Co., with which he was connected for a great number of years. His brother, Sir William Henry Dunn, Bart., who was Lord Mayor of London in 1917, was the founder of the firm of city auctioneers and surveyors, known as Dunn, Gowan and Coverdale, with whom the late Mr. Dunn had professional associations. Mr. Dunn was at one time in partnership with Mr. Joseph Hansom, inventor of the hansom cab, and also first editor of *The Builder*.

We regret to record the death of Mr. H. O. Jones, borough surveyor at Folkestone and chief of the fire brigade.

At the R.I.B.A. on Monday night the following deaths were announced:—

Marcus Kenneth Glass, transferred to the Fellowship Class, 1925.

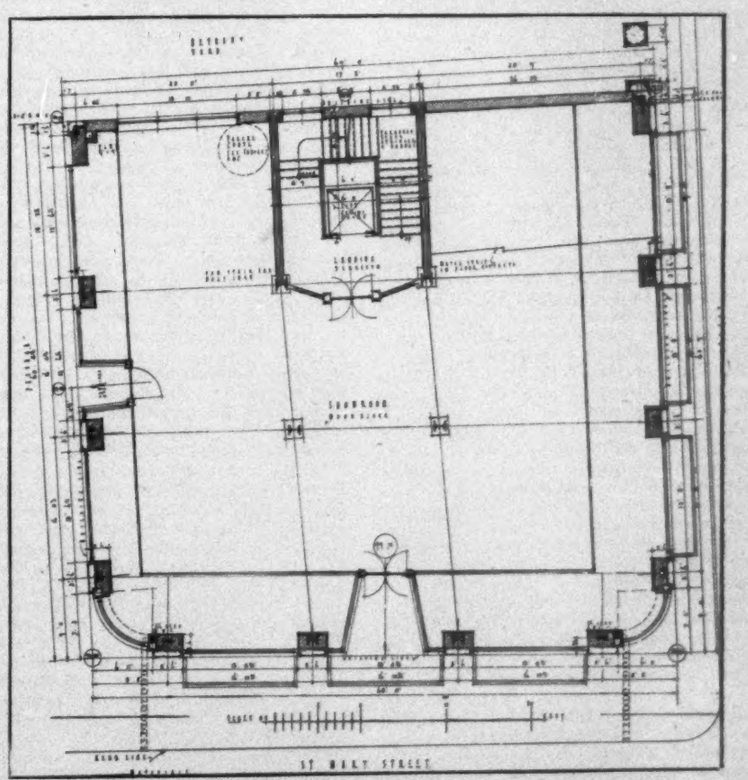
Adam Francis Watson, elected Associate 1879, Fellow 1905. Mr. Watson was a Past President of the Sheffield Society of Architects, and represented that body on the R.I.B.A. Council from 1914 to 1919.

Horace Bradfield, elected Associate 1882.

David Ditchburn, transferred to Licentiateship class 1925.

Alfred Marshall, transferred to the Licentiateship class 1925.

Louis John Newton, transferred to the Licentiateship class 1925.



New Premises, St. Mary Street, Cardiff: Ground Floor Plan.
MESSRS. IVOR JONES AND PERCY THOMAS, A. and F.R.I.B.A., Architects.

THE WORK OF W. R. LETHABY.

A distinguished gathering assembled at 9, Conduit-street on Monday to hear Sir Reginald Blomfield speak on "W. R. Lethaby: An Impression and a Tribute." The President occupied the chair.

He, commenced Sir Reginald, made Lethaby's acquaintance in the early 'eighties, first, he thought, in the schools of the Royal Academy, 1881-82, and then he came to know him much more intimately through Edward Prior, who had been in Norman Shaw's office, with Macartney, Ernest Newton, and Gerald Horsley. Lethaby at that time was Shaw's principal draughtsman. The speaker had, and still had, a very great admiration for Norman Shaw, so, too, had all "the family"; but, strangely enough, he never heard Lethaby express his admiration of his master, and was sure that his whole heart went out to Philip Webb, who, by the austere simplicity of his life and the dignified reticence of his design, seemed to Lethaby the ideal of what an architect ought to be. Moreover, Lethaby was a convinced believer in Gothic architecture, not the neo-Gothic then in use, but the true mediæval Gothic, carried out, as he believed, by guilds of craftsmen in an ideal state of things, where the workman loved his work, when everybody was happy and good, a world of sunshine, of joyous life and romance, such as never really existed except in the generous imagination of the poet. It was beautifully described in Morris's *News from Nowhere*, and he could still remember the enthusiasm roused by that delightful fantasy. Philip Webb was, of course, the close personal friend of Morris, and those two were the men who influenced Lethaby most, and also, of course, Ruskin, whose writings were to Lethaby as the words of the Prophet, to be accepted with meekness and reverence, no matter how strange they might seem, or how irrelevant to the art of Architecture. Ruskin's teaching coloured all Lethaby's views and, indeed, led him to translate architecture and the arts into terms of a generous if quite impossible socialism. He, the speaker, used to differ from Lethaby habitually when it came to Ruskin. As an undergraduate at Oxford he, the speaker, had attended Ruskin's lectures, but became suspicious when the Slade professor advised the undergraduates to go and dig a road at Hinksey instead of wasting their time in cricket or football or on the river, a road which, of course, had to be done all over again; and when, with an eloquence and enthusiasm which one could not help admiring, he made the arts and morals interchangeable terms.

The speaker then recalled the formation in 1890 by a group of architects, including himself, Lethaby, Macartney, Gimson, Barnsley and Stephen Webb, of a company called Kentons, for the making of furniture to their own designs, but confessed that about all they got out of their venture was a very interesting experience and the gain of some very useful knowledge. Lethaby, he continued, was a regular attendant at the Art Workers' Guild, in the old days at Barnard's Inn, and long afterwards, in 1911, he became Master. In those early days he seldom spoke, but in the intervals when the time came to retire for a whisky-and-soda there ensued many a suggestive talk. Lethaby himself neither drank nor smoked, but he was a genial soul and on any subject connected with the arts, indeed on any subject except sport, of which he knew nothing, he was always well worth hearing. He possessed a great deal of unsuspected knowledge, and his mind was so alert and original that some fresh light was sure to be thrown on any subject that was discussed. In those days (he was speaking of the 'eighties) "the family" and men such as Horne and Mackmurdo were the advance guard of the young men of movement, and that was largely due to Lethaby's influence, and the regard all had for his personality.

At that time, 1887-88, the Arts and Crafts movement was in the air, a group full of zeal and energy, impatient to break through the commercial ring of furnishers, upholsterers, and decorators who controlled the market and worked entirely through ghosts. The Arts and Crafts Society used to hold its exhibitions in the New Gallery, and they were on a much more extensive scale than the exhibitions that had since been held from time to time. He, the speaker, used to work with Lethaby in committees in arranging the exhibition, whose enthusiasm, knowledge, and gentle irony played an important part in holding all together. Lethaby could be extraordinarily eloquent, when he got under weigh, if also rather vulnerable, but he was a constructive thinker. It was to be noted that, as early as 1896, he wrote: "Waterloo Bridge, as it stands, is second in importance only to St. Paul's, and must be preserved at any cost and sacrifice." The examples of work executed from his own designs, which he rarely exhibited, somehow always seemed to be just ahead of the best work of any of his fellows. After the giants had gone, such men as Morris, for instance, Lethaby's personality had been the most abiding influence in the whole Arts and Crafts movement. In 1900 he was appointed the first Professor of the School of Design, in the reorganised Royal College in South Kensington, where Beresford Pite was his colleague in the School of Architecture, and it used to fall to the speaker to visit both those schools on behalf of the Board of Education. Lethaby taught in the Royal College till 1918, but meanwhile he had been head of the first Arts and Crafts School in Regent-street, which later developed into the Central School of Arts and Crafts in Southampton-row. Those schools were the direct outcome of the Arts and Crafts movement, which had started some fifteen years before, and Lethaby's influence, in extending and stabilising the results of that movement in the early years of this century, was of paramount importance. As a teacher he was admirable. His quickness of appreciation, and ready sympathy with any genuine effort of imagination, must have made him an ideal teacher in the arts of design.

In the year 1887, the R.I.B.A. received a new Charter, and soon afterwards a Registration Bill was introduced, without any authority from the Institute, and officially opposed by that body; but it appeared from the pronouncements of members that the Institute had in view a registration scheme of its own, via examinations. The proposal was much disliked by many members of the Institute, and by practically all the distinguished architects outside it. With Lethaby, Macartney, Prior, Newton, and Horsley the speaker devoted his energies to the campaign led by Shaw and Jackson, which resulted in the publication, by Murray, of *Architecture: a Profession or an Art?* To that volume all the group contributed essays from their several points of view. So far as the younger men were concerned, it was Lethaby who more than anyone coloured their ideas. The hands might have been the hands of Esau, but the voice was the voice of Jacob. Lethaby himself contributed an essay on "The Builders' Art and the Craftsman"—an eloquent, if rather bitter, plea for the mason, the carpenter, the man who worked with his hands, as against the paper architect "the special pleaders of an organised and would-be privileged corporation." A Memorial, and *Architecture: a Profession or an Art?* did their work. Registration retired into the background, and things settled down again, so peaceably that fifteen years later Aston Webb's skilful handling brought all sides together again, on the common ground of education. He recollected a meeting of the younger memorialists in Ricardo's house in Bedford-square, at which T. G. Jackson was present, when Lethaby rather scandalised the meeting by calling the Royal Academy "a schism shop." He hated academies as being privileged bodies, but Jackson had a sense of humour, and the incident passed. In the end it was agreed to work together in the cause of education, and the speaker rejoined the Institute in 1906, from which he had resigned in 1891, with Lethaby, Macartney, Horsley, Newton, Prior and others. The work done in co-operation with the R.I.B.A. in 1905-6 was of vital importance. At that time no system of architectural training existed in this country. There were two or three isolated schools, and there were also the R.I.B.A. examinations, but they were not the least in touch, and it was then for the first time that examinations and education were brought into some sort of relationship.

In 1894 Lethaby and Swainson published their researches in *Sancta Sophia* at Constantinople, and the lecturer recalled that in an article published at the time he had stated, after certain criticisms, that "The work of Messrs. Lethaby and Swainson is a valuable contribution to our knowledge of Byzantine art. The authors were evidently in love with their subject, and they have succeeded in giving a certain cumulative impression of the surpassing fascination of *Sancta Sophia*." It was in the year 1906 that Lethaby became Surveyor to Westminster Abbey. The Abbey was to him as a child to its mother. He knew every stone of it, and in that year he brought out his fine book on Westminster Abbey and the King's Craftsmen. It was a work of vast research, and Lethaby thoroughly enjoyed himself, not only in his detailed descriptions and illustrations of every part of the Church, but in disinterring from inventories and accounts and MSS. the names of long forgotten workmen. Lethaby's aim and object in writing his account of the Abbey was "to get at the facts as to building organisation in the Middle Ages," the economic basis of Gothic Art. In actual fact, fine artist though he was himself, and learned as he was in the history of architecture, he always approached architecture from the point of view not of an architect but of a socialist, a socialist of a very innocent kind. His profound admiration for William Morris sometimes made him forget that in actual practice architecture was an art with a definite purpose, a definite æsthetic appeal and definite limitations. His attitude towards old buildings seemed to the speaker to have been irreproachable. He loved them as still preserving the soul of the past, and to him every stone was sacrosanct.

Lethaby was far happier with his researches, and the conclusions that he drew from them, than he would have been with a busy practice. In actual fact, he did not design many buildings. What he did do was of rare quality, but he rather stood aside from life. He preferred to watch it, and from time to time he gave the world the results of his observations. He followed that admirable text which had been the consolation of all who had tried to think things out for themselves, "Cast thy bread upon the waters: for thou shalt find it after many

days." His essays, collected under the title of "Form in Civilisation," and his little book on architecture contained criticisms and suggestions of deep significance. One could seldom accept them at the foot of the letter, but as he himself said of Ruskin, they made one think. Indeed, they followed on each other's heels with such rapidity that they were sometimes just a little overwhelming in their tumultuous appeal. One felt inclined to cry "Here! let me think this out," but he was on one again without appeal.

Lethaby never advertised, he shrank from the very idea of it, and he never played to the gallery. Years ago, the speaker wanted him to let him put his name down for the Academy, where his wise, cool sense would have been invaluable, but he could not see his way to agree. He felt it would be inconsistent with the whole tradition of his life; and he wrote to him, "My loyalties and my past seem to be bound up with it, such as they are. . . . Feeling this very definitely, it would not be honourable even for me to let you put me forward in the way you so generously propose." Again, when many wanted to put him forward for the Gold Medal of the Institute, he declined it, yet no man within memory would more thoroughly have deserved it for his services to the Art of Architecture. His influence on his contemporaries was incontestable; partly because what he said was so valuable in itself, partly because it was so entirely different from what anybody else was saying at the time, and partly because Lethaby himself was sincere in his convictions. The whole of his life was coloured by his social and ethical views. He hated Renaissance architecture, because he thought it was the architecture of the rich and powerful, and not the architecture of the humble man, and he hated it because it had produced the architect as we now understood him, and as he now was in fact; that was, a man who sat in an office, and, if he was a good man, made his designs himself; if he was not, he paid someone else to make them; but, in either case, arranged for their being carried out by other hands than his own. Lethaby hated the idea of those "pundits," "mystery men," and "high priests of architecture," as he called them. He wanted art to come down into the street and the market-place, divest itself of all trappings, and devote its energies to the simplest, neatest and clearest realisation of the purpose in hand.

Those dreams of a happy past when all men worked together for good were gone, never to return, and Lethaby must have realised that they were never anything but dreams, but throughout all his teaching he never wavered in his faith that the mainspring of all art should be the service of the community, and that its realisation was to be found only in doing, loyally and sincerely, the work in hand, whatever it might be. Someone had said at the time of his death that there was an almost saint-like quality about him and he, the speaker, thought he was right.

Lethaby was completely unselfish, he had absolutely no idea of personal gain or advancement, he was impatient of wrong and injustice, hypocrisy, and humbug. Perhaps his enthusiasm sometimes blinded him to the hard facts of life and the infirmities of human nature, and sometimes led him dangerously near to fanaticism; but again and again his ready sympathy and his sense of humour brought him back to a wise tolerance, and balanced judgment. His was a rare nature, one that inspired genuine affection in all who really knew him, and they might well say of him, with Horace:—

"*Quis desiderio sit pudor aut modus,*
tam cari capitis"——

but his work would remain, and his teaching might yet influence future generations, as it has influenced the present.

Discussion.

Miss May Morris, in proposing a vote of thanks to the lecturer, said that Sir Reginald's address had roused many memories. Her first introduction to Lethaby's ideals was his book, *Architecture, Mysticism and Myth*, read at a time when she herself was trying to study such things, especially symbolism in art. It was very interesting to see that a few years before his death he had returned to the same subject in a series of articles* in *The Builder*, but in an enlarged and matured form; in fact, said Miss Morris, she believed that he referred to his earlier efforts as being critical and inexpert. It was interesting to see him returning in the evening of his days to the subjects which had engaged his early attention, and it seemed a great pity that the articles could not be put before the public in book form. Lethaby had not designed many buildings, and she herself had known of two houses only. Yet those houses were the very embodiment of fineness and dignity, and full of homeliness and welcome, the true test of architecture. Another side of Lethaby was his love of the country and of country crafts; he always laid stress on the value and need for the beauty of the country, and, indeed, he could not bear to think that the loveliness in everyday life should be passed by without notice. The influence of a life and mind like Lethaby's could not fail to be everlasting. Those that knew him knew that his words could not, and would not, die.

Sir Wm. Rothenstein, in seconding the vote, said that the first man who would have been pleased to hear Sir Reginald's tribute was Lethaby himself. Sir Reginald had given them his thoughts on Lethaby without unction to his own soul—a very courageous thing to have done. He, the speaker, disagreed on the point that Lethaby was remote, for he was not remote from reality. Undoubtedly he was a saint, but a saint was surely the practical man who had the courage to state, perhaps sometimes to overstate, the things that had to be said. But, generally, Sir Reginald's speech had been a model of what a pæan of praise should be from an honest man.

The President said that he would like to join issue on one point in the paper. He agreed that perhaps Ruskin mixed morals with art, but he believed that there was a kind of unity between them—they were not the same, but somehow they were not divided. Lethaby, with Morris, took joy in Gothic, for it gave the workman greater opportunities for joy. Looking at steel frame construction, Lethaby retained the conviction that some day we would find a form of expression for modern building that would once again provide joy for workmen.

Mr. Thackeray Turner told how Lethaby's influence had brought him to think that it was impossible to have any art that was not of human creation. The moment one copied, it ceased to be art.

Mr. H. M. Fletcher said that Lethaby thought for himself, and therein lay his special distinction. With his opinions it was possible to disagree, but no architect could fail to be interested in them. Deeply sincere himself, he gave a catholic welcome to all forms of sincerity in others, and kept his scornful wit for pretentiousness, officialism and everything he summed up as "grandiose bunkum." Order, tidiness and finish were favourite themes of his, and he hated the muddle brought about by slipshod living, imperfectly-controlled machines, imperfectly-educated human beings. So, naturally, the building up of the future occupied much of his thought during his later years. In architecture or building design, his teaching had surely been in large measure responsible for the saner side of what was vaguely called the modern movement—the getting rid of tophamper. Of its less rare manifestation he was guiltless. "I am satisfied," he said, "that all search for originality just blocked the way, with our preconceptions, limitations, to any possibility of realising a true originality, which properly is of the root, not of the appearance." Like all men of true originality, he was a rebel, a heretic. Heresy was vital to modern life, especially to great corporate bodies like the Royal Institute of British Architects, whose natural trend was towards unthinking uniformity. But Lethaby never let rebellion lead him into bitterness.

Mr. W. Curtis Green said that Lethaby was the inspiration of his youth. Whether as draughtsman, as designer or as writer Lethaby was a fountain of inspiration. He could well remember the thrill at first seeing one of Lethaby's houses, for in detail he was always irresistibly right, having the craftsman's trick of shaping every material to its right use. His work had the essential quality of vitality and repose. Plato had said that rhythm and harmony found their way into the secret places of the soul. If that was so, then Lethaby heard music that was denied to others.

Professor Beresford Pite said that so rare a spirit was Lethaby that even Norman Shaw, who understood every client, builder and even architect could not understand Lethaby. But Lethaby understood Shaw, and his invariable answer to any criticism that might be made of his old master was, "Shaw is so wonderful." Shaw valued and loved Lethaby, a fact which testified to the high quality of his work. He, the speaker, first knew Lethaby in 1882, when they used to meet, not to talk, but to make designs, and for many years after that at the Royal College of Art they were neighbours. There one could watch his influence disintegrating the parasites, supplanting them with the healthy seed of truth in a way that ultimately won the hearts of the students. The work commenced at that college was now permeating the country. Lethaby was philosopher first and architect second. His views on art and life were never from the point of view of the professional architect. His outlook was so universal (his appreciation of Greek and Egyptian art being equally as great as his knowledge of the mediæval) that one could not set him down as either mediævalist or modern. It had been suggested that he was opposed to Renaissance: that was not so, for his admiration for Wren was profound. Anyone who looked around the architectural world to-day saw that we were living, consciously or unconsciously, upon his outlook on life, for Lethaby felt fundamentally that art was work, was life.

Mr. R. W. S. Weir recalled how Lethaby loved building., and how he would say again and again "I want to build." But, somehow, he could not get on with clients or the builders, unless they were honest men.

Mr. P. J. Waldram, Mr. Basil Oliver (the present Master of the Art Workers' Guild) and Mr. S. C. Cockerell, having paid tributes,

Mr. A. H. Powell recalled another side of Lethaby's character, his jolliness. Lethaby, he said, never seemed to grow up. He rode, bicycled (upon a bicycle presented by the students of the Central School of Arts and Crafts), and rowed on the river. He was full of life, and his senses were so continuously alive that he drew into him knowledge from all sources.

Mr. Eric Maclagan, having spoken,

Professor J. W. Mackail said that Lethaby had left his influence on all those with whom he came into contact, so much so, that in any assembly of architects one could say, "Si monumentum quæris, circumspice."

Dr. D. S. MacColl said that he felt that Lethaby shrank from using the word "beauty," because the word was used to denote so much that was not beautiful. He, the speaker, asked if it were not possible that the two last series of Lethaby's writings, published in *The Builder*, could be reprinted.

Sir Herbert Baker said that it was Lethaby's intense love for his art which enabled him to radiate light and colour.

Mr. Noel Rooke said that he had been surprised that it was suggested that Lethaby was a mediævalist. To the younger men he always seemed to be pointing to the future. As student and as lecturer, he (the speaker) had served under Lethaby, and he doubted if there had ever been a man so loved by students and staff.

Professor W. G. Newton said that what struck one particularly was Lethaby's extraordinary zest in life; he took the greatest delight in simple things. Whether a saint or not, he was certainly a happy man.

*A series of 13 articles under the title of "Architecture, Nature and Magic." 1928.

HAY'S WHARF HEAD OFFICES

Reviewed by L. W. THORNTON WHITE.

With the completion of the new head offices for Hay's Wharf, London makes a very definite contribution to the evolution of western architecture. That such a contribution has been possible is a most encouraging sign, and the directors of the company are to be congratulated on their courage and foresight in allowing their building problem to be solved in a rational manner. Such enterprise reaps its own reward—at the least money is saved. In the able hands of Mr. H. S. Goodhart-Rendel, F.R.I.B.A., these new head offices achieve a completeness and dignity impossible at similar cost in the so-called traditional language of a steel-framed Palladio. The fashionable tags of "modernism," "functionalism," etc., will in turn be applied to this building. It can well afford to smile good-humouredly at them all. Indeed, if label it must have, "traditional" is the most fitting, for it is built upon sound altruistic foundations, without preoccupation with academic ideals. Like the best buildings of the past, it solves its problems of accommodation with imagination, it chooses materials and methods for its construction with consummate care and uses these practical matters as a vehicle for the interplay of forms expressive of its century.

The site, overlooking the Pool and City of London, is a fortunate one and allows the new building to form a fitting climax to the long line of wharf stretching away in the direction of the sea from whence its visitors arrive. It has a frontage, too, to Tooley-street, for the building is essentially a link between sea and land transport. Almost the whole of the ground area of the site is utilised for the circulation of lorries and cars, relieving of necessity the congestion of the street. Three legs only of building reach down from above to accommodate the entrances, lifts and staircases. A large basement below this level is utilised for storage, heating plant, etc. Above the absent ground-floor story are four floors of offices, rising to six floors on the river frontage. The main doorway leads into an entrance hall near the centre of the site, from which a compact arrangement of stairs and lifts gives access to landing halls on all floors. This unit of vertical communication is very well proportioned and achieves a sense of spaciousness much greater than its relatively small area on plan leads one to anticipate. There is a secondary staff staircase and lift accessible from one of the smaller ground-floor legs next Tooley-street. This staircase also leads up to a caretaker's flat planned as an attic story crowning the street elevation. The life of the building centres around a large directors' common room on the river front of the first floor, with a board room on the second floor immediately above. Grouped around these two rooms are private offices for four directors on each level, planned *en suite* with small private secretaries' rooms. Two well-placed personal staircases closely link the two directorial levels. There are two waiting-rooms, both accessible from the main transverse corridor and served directly by private lift. The remainder of the first and second floors contain the secretarial and managerial offices, served by book lift from the basement storage and with letter chute to the entrance porter's room.

The engineer's department, with its drawing offices, occupies the top floor facing the river, where there is an abundance of light both from specially designed windows and pavement lights in the flat roof. The latter is approached from an extension of the main staircase and is available for recreation purposes. The intermediate floors are planned to provide office space for letting. The minor details of planning are not left to look after themselves. The main lavatories are all centrally placed and economically planned, with an absence of awkward returns and useless corners. The placing of the outside escape staircase has been carefully considered—it is available from all floors, including the caretaker's flat, and delivers on to a large canopy roof at first-floor level and thence by separate staircase direct to Tooley-street. Beneath the latter stairs may be found a small canteen for lorry drivers, for whose use also there is a small lavatory next the entrance hall.

The principal elevation, to the river, is keenly inspiring, and for that reason alone will be looked upon with suspicion by a large mass of people who seem instinctively to dislike the unusual. It is nevertheless unusually good. The architect has fully appreciated the necessity for bold shapes in a building seen only from the river, the bridges and the more distant north bank. The main pattern of horizontal window and screen walling diminishes upwards in graded proportions, following the very practical desirability of reducing the heights of stories as their importance decreases and the strength of natural lighting increases. In this way is the building saved from appearing as a small portion of a sky-scraper of interminable equal stories. A large bevel surrounds and unifies the whole elevation, counteracting a possible illusion that the building may grow a diminished story each year, like the trunk of a well-nourished palm tree. This large bevel appears as angle windows in the directors' rooms and offices above, giving magnificent views up and down the river, while across the top the bevel takes up the form of sloping north-light glazing to the drawing offices. Above the top bevel, a sign of gilded metal letters crowns the river front, the difficult problem of spacing nine letters over a length of some 85 ft. being cunningly managed. All the windows on this elevation are formed of repeated units, three-sided on plan, giving an integral secondary pattern of light and shade to the elevation, as well as providing a choice of casement opening away from the wind and giving further side views of the river. The larger windows of the common room and board room form the focal centre of the composition. They are fittingly emphasised by a bold surround of black granite enriched by symbolic panels of gilded modelled faience, the work of Mr. Frank Dobson. To an observer at normal distance, say, on London Bridge, these panels reveal contrasting lines of high light and shadow which considerably help an appreciation of the larger forms of the building. This is of vital importance in architectural sculpture. Although the work is in a number of small panels, it reads as a whole. The shapes in each panel take account excellently of those in adjoining panels, and a smaller scale ribbon suggestive of shipping crates adds to the general unity of the scheme. From the nearer viewpoint of the wharf the detail shapes become wittily visible—a tonic to the intellect.

The elevation to Tooley-street is no less successful. The building here is entirely isolated, gateways to the lorry circulation forming the only links with adjoining property. In the centre is the large entrance for private cars and pedestrians. Above this the diminishing stories, with corresponding adjustment in the sizes of window pane and facing jointing, lead to the concluding attic story. The main windows to the offices on this elevation form a strong horizontal composition based on the necessity for admitting a maximum of light from the limited sky above a narrow street. The casements of these windows open only above the level of the bottom pane, which is fixed throughout, thereby rendering the deep internal cills doubly useful. This arrangement has also avoided externally the apparent insecurity visible in the case of most bulkhead windows. Deep splays below the windows, adding again security and cleanliness, further indicate the amount of thought and care bestowed upon the window design. Two tower-like units finish the elevation at either side, one housing the staff staircase and the other planned to accommodate lavatories (omitted at a late stage in the build). Two well-placed and boldly treated chimneys help considerably in binding together the three main divisions into a unified elevation.

The problem of lettering over the main entrance is exactly the reverse of that on the river front—the arrangement of a number of letters in a limited length. Any traditional proportioning of the letters in this length would have resulted in their being too small in scale. On one angle of the Tooley-street elevation a mosaic outline, characteristically drawn by Mr. Colin Gill, reminds the passer-by that the Church of St. Olave once occupied the site, while on the other angle a black mastic-filled inscription, the work of Mr. Esmond Burton, details the events of the church's sale and destruction.

The enrichment of the building landwards has been concentrated upon the main entrance door near the centre of the site. It greets the eye with a rich splash of colour when one comes upon it after playing hide-and-seek with some inevitable stanchions. The doorway is recessed in a bold surround of black granite and gilt faience, surmounted by the arms of the families identified with the development of the business. The heraldic devices are of brightly coloured enamels on copper, to the drawings of Mr. E. Ware. The entrance doors themselves are of unusual, but quite logical, design. Indeed, they are not doors in the usual sense, but wrought-iron gates, glazed and gilded, and arranged to swing outwards and inwards, collapsible gates of normal pattern placed inside securing the entrance at night.

The whole building is of steel-framed fire-resisting construction, with "Caxton" concrete floors. The infilled portions of the elevations are faced with slabs of Portland stone, 4½ in. thick, chosen from among other materials for its ease of fixing and resistance to the London atmosphere. The L.C.C. would not allow similar slabs to be fixed on the inclined surfaces below the Tooley-street windows, which are therefore faced in reconstructed stone. By discarding all conventional bonding of the slabs, their veneered character is sincerely acknowledged, and the clean straightforwardness of the building enhanced. Exposed party walls, usually overlooked, have received their due quota of consideration and find themselves an integral part of the new building. They are rendered in white cement and divided, to diminish the risk of cracking, into panels of appropriate scale by thin lines of black encaustic tiles. Opal glass, similarly arranged in pattern and fixed by means of unrusting metal strips, lines the ceiling of the car park—a slightly restless ceiling, perhaps, reflecting physically and metaphorically the mobile traffic below.

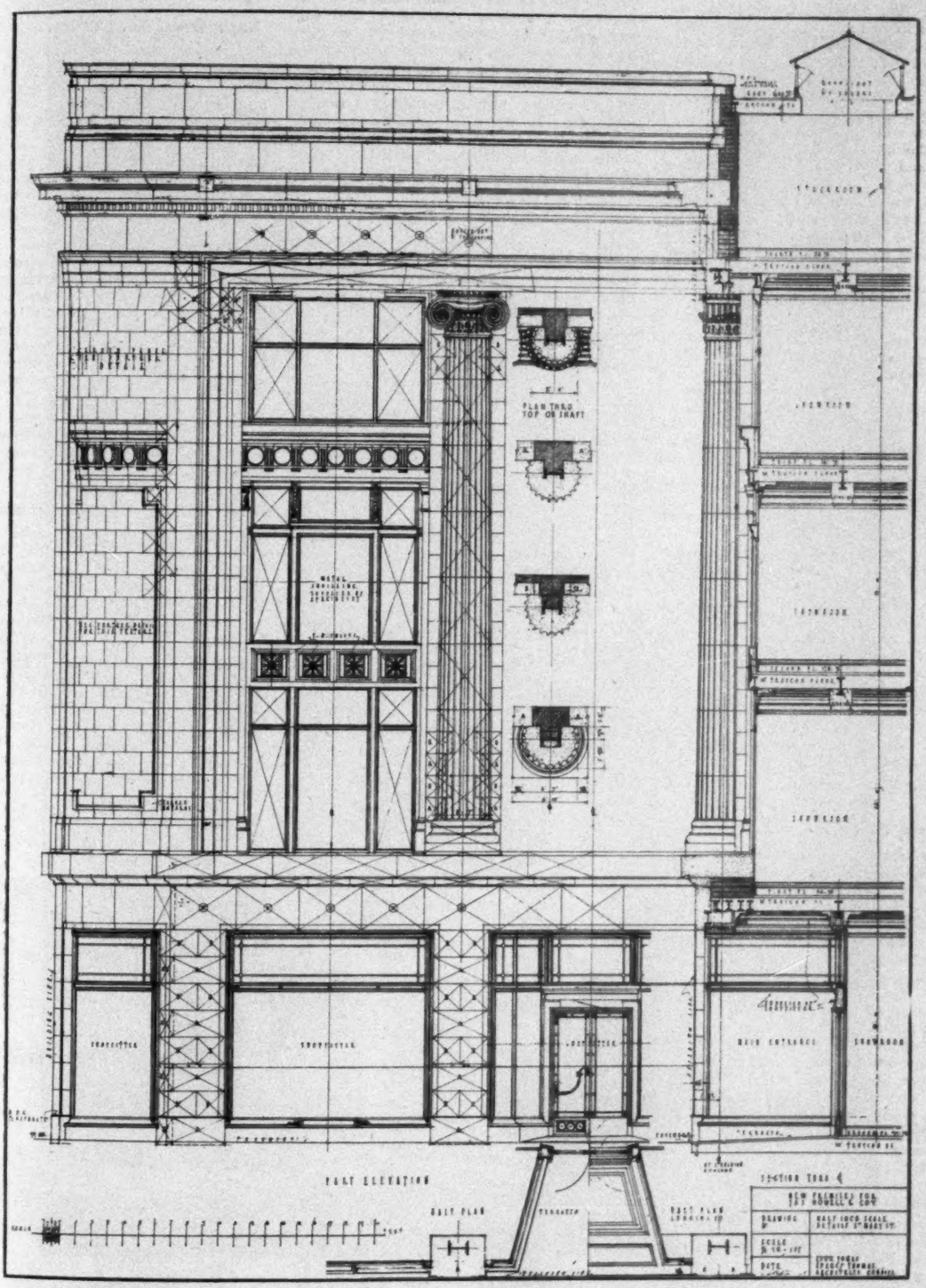
An interesting point in connection with the building is the apparently entire absence of drainage. This desirable result is achieved by a carefully considered lay-out of the lavatories, as may be seen from the plans. Adjacent to the lavatories are ducts running the entire height of the building and accessible at each floor level by manhole door. These ducts contain all the vertical plumbing, including even the flushing tanks and flush pipes to the water-closets, simple levers on the lavatory side actuating the pull chains. Air bricks to the external air and extract fans on the roof provide the necessary duct ventilation. A duct system similarly contains all like equipment—electric mains, speaking tubes, telephone conduit, etc.

* * *

In the Priestleyian prologue to "Angel Pavement," the men on Hay's Wharf, knowing all about the matter, contrived to "spit ironically." That was before the new building graced the Thames. The spitting, of course, still continues—but it contrives now to be sagacious!

Guildhall and Little Cornmarket, High Wycombe.

The Guildhall and Little Cornmarket have been scheduled as ancient monuments and are now subject to the provision of the Ancient Monuments Acts, 1913 and 1931.



New Premises, St. Mary Street, Cardiff: Detail of Elevation. Awarded Bronze Medal and Diploma for South Wales.

MESSRS. IVOR JONES AND PERCY THOMAS, A. and F.R.I.B.A., Architects.

(*See pages* 339, 344 & 345.)

ILLUSTRATIONS

PLATES.

St. Alban's Church, Golders Green.

This church is to be built upon a level site at the corner of North End-road and West Heath-drive. The existing church at the end of the site is to be retained, with some modifications, and used as a hall. Owing to the nature of the soil, it is considered necessary to construct the foundations of the new church of reinforced concrete piles of an average length of 30 ft.

The church will be cruciform on plan. A feature of the interior is that there will be no aisles and consequently no rows of columns, which in so many churches obstruct the view of the altar. The north transept forms the Lady Chapel, while the south transept will be used for seating and for the organ. Seating is provided for approximately 450 persons. The central tower is unusually large on plan, and the space beneath it will be lighted by windows at a high level, above the roofs of the nave, chancel and transepts. The vestries are approached from the south transept and have also, of course, an independent external entrance. The main entrance to the church is by means of two porches flanking the west end of the nave. There is also an independent entrance to the Lady Chapel (north transept). There is an open-air pulpit at the north-west corner of the north transept; this is approached by a flight of steps inside the building.

As regards materials, the walls are faced externally with narrow bricks of a brownish colour. The stonework employed for the windows, doors and "dressings" generally is Clipsham. The roofs, including the spire, are covered with tiles very similar in colour to the brickwork. Internally the walls are plastered, and there is a dado about 4 ft. high, composed of Blue Hornton stone. There are open timber roofs throughout, except over the central space, which will have a flat ceiling panelled in oak, the space above, within the spire, being utilised for bells.

Sir Giles Gilbert Scott, R.A., F.R.I.B.A., is the architect.

Messrs. F. G. Minter, Ltd., are the contractors.

New Premises, Cardiff.

As we announced in our last issue, the bronze medal and diploma for the best building erected in South Wales in the years 1928-30 have been awarded to the new premises in Cardiff for Messrs. James Howell & Co., Ltd., designed by Messrs. Ivor Jones & Percy Thomas, A. & F.R.I.B.A., of Cardiff. The buildings stand on the corner of St. Mary-street and Wharton-street, on the site formerly occupied by the old Armoury, one of Cardiff's historical old buildings, and cover an area of about 68 ft. by 64 ft. Five floors of showrooms are provided, one of which is in the lower ground floor, and there is a sixth floor covering the whole area and containing the stock rooms, workrooms and other administrative offices. The principal entrance is in the centre of the St. Mary-street front, and there is a secondary entrance on the side passage to provide easy connection between the new and old buildings on the ground floor.

The construction is fireproof throughout, being formed of a skeleton steel frame encased in brick and Portland stone, with ferro-concrete floors and a ferro-concrete staircase. The floors, which are constructed on the "Truscon" principle, are hollow, and the cavities are used for conveying the numerous pipes, electric tubes, etc., which are required in a building of this sort, so that, in spite of the numerous services, no unsightly pipes appear on the surface of the walls and ceilings. The main staircase is covered with Travertine terrazzo with a dado of similar material and coloured mosaic border carried right up the stairrase. Every modern convenience, both for safety and for the easy despatch of business, has been incorporated in the new buildings, amongst which may be mentioned the following:—A complete installation of automatic fire sprinklers; a parcels chute, with access from each floor and delivery to an electrically-driven belt conveyor, which will carry the parcels in a subway under the ground and deliver them to the dispatch room in the old building; a complete pneumatic cash tube installation, with points conveniently arranged on each floor and connected to a central station on the top floor of the building. There is also a complete vacuum cleaning installation for the whole building. Heating throughout is by a low-pressure hot-water system.

The elevations, which are carried out on all three principal fronts in Portland stone, are designed in the modern manner for business premises to give the maximum amount of light to the showrooms within. The Ionic style of architecture has been adopted, and the St. Mary-street elevation has two Ionic columns with caps modelled on those of the Erechtheion at Athens. The rounded angles are enriched at the third-floor level by two sculptured figure panels carried out to the architects' designs in the modern manner, and symbolical of the industry carried on in the building. Between the columns there is a filling of cast-iron metal panels forming the windows of the showrooms. The general contractors were Messrs. E. Turner & Sons, Ltd., of Cardiff, and Mr. F. G. Salter was clerk of works. The sub-contractors were as follows:—Connies & Meaden, Ltd., Cardiff, steelwork; Independent Sprinklers, Ltd., sprinkler installation; Lamson Pneumatic Tube Co., Ltd., cash tube installation; J. G. Progers & Sons, Ltd., Cardiff, heating installation; Smith, Major & Stevens, Ltd., Northampton, lift; George Wragge, Ltd., lift enclosure; Hallett Flooring Co., Penarth, Glam., wood-block flooring; Crittall Manufacturing Co., Ltd., and John Williams & Sons, Ltd., Cardiff, steel windows; Sauvee & Co., Ltd., parcel conveyor; Cashmore Art Workers, ornamental rainwater heads, etc.; Shanks & Co., Ltd., sanitary fittings; H. H. Martyn & Co., Ltd., Cheltenham, carving and wrought-iron screens to interior; Marble Mosaic Co., Ltd., Bristol, terrazzo flooring, etc., and w.c. partitions; E. Pollard & Co., Ltd., shopfronts; Taylor Bros. (Sheffield), Ltd., shop fittings; Sturtevant Engineering Co., Ltd., vacuum cleaning installation; Mather & Platt, Ltd., Manchester, fireproof doors and shutters; Booth & Bomford, Ltd., Cardiff, electric lighting; Trussed Concrete Steel Co., Ltd., steel reinforcement to floors and staircases; Luxfer, Ltd., pavement lights.

Hay's Wharf Head Offices.

A special article on this new building is given on page 343. Mr. H. S. Goodhart-Rendel, F.R.I.B.A., is the architect.

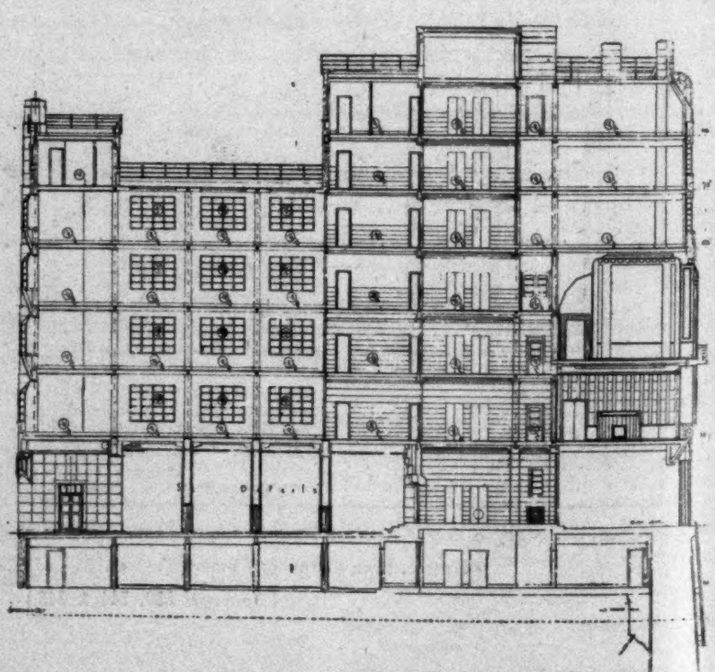
Design for Licensed Premises, Birmingham.

This illustration shows a public-house which, while complying with the Birmingham Licensing Justices' regulations, is considerably less expensive than many premises erected in the past. The accommodation for the public consists of a bar, men's smoke-room and general assembly room. This latter room would be used for meals and social meetings of all kinds; externally is a large covered verandah looking on to the garden, in which refreshments of all kinds would be served. All the public rooms and the verandah are adjacent to a central servery, which in its turn communicates with a kitchen on the first floor and with the basement by means of a lift.

Messrs. John P. Osborne and Son, of Birmingham, the architects, estimate the cost of this building, without furnishing, at £6,500.

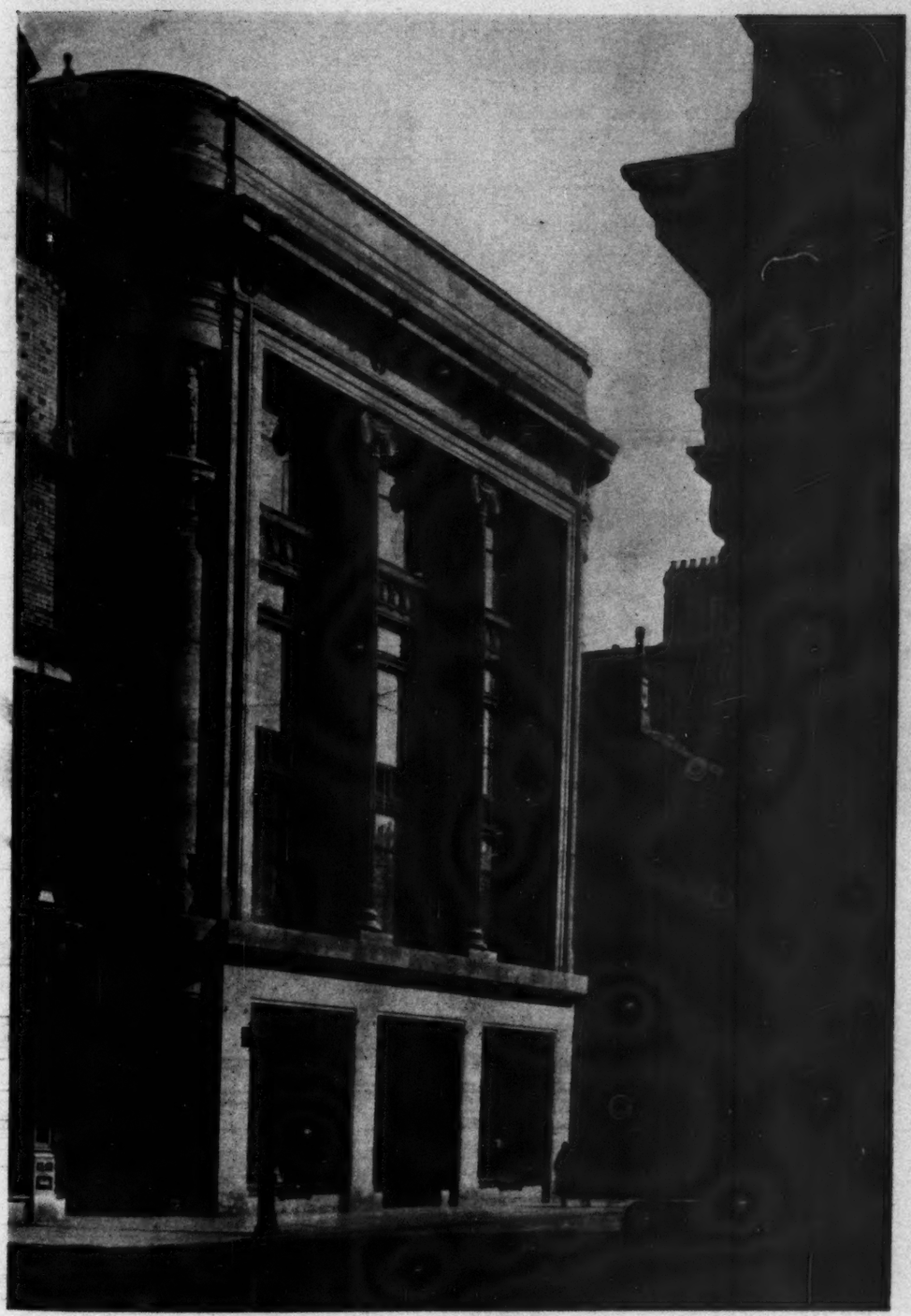
Royal Academy Summer Exhibition.

The days for receiving works for the 1932 Exhibition have been fixed as follows:—Water-colours, pastels, miniatures, black-and-white drawings, engravings and architectural drawings: Thursday, March 24; oil paintings: Saturday, March 26, and Tuesday, March 29; sculpture: Wednesday, March 30. Reception hours, 8 a.m. to 10 p.m., except the Saturday, 8 a.m. to 2 p.m. Not more than three works may be sent by any one artist. Labels and forms can be obtained, during the month of March only, from the Secretary, Royal Academy of Arts, Piccadilly, W.1, accompanied by a stamped and addressed envelope. The Exhibition opens on Monday, May 2, and closes on Saturday, August 6.



Hay's Wharf New Head Offices: Longitudinal Section.

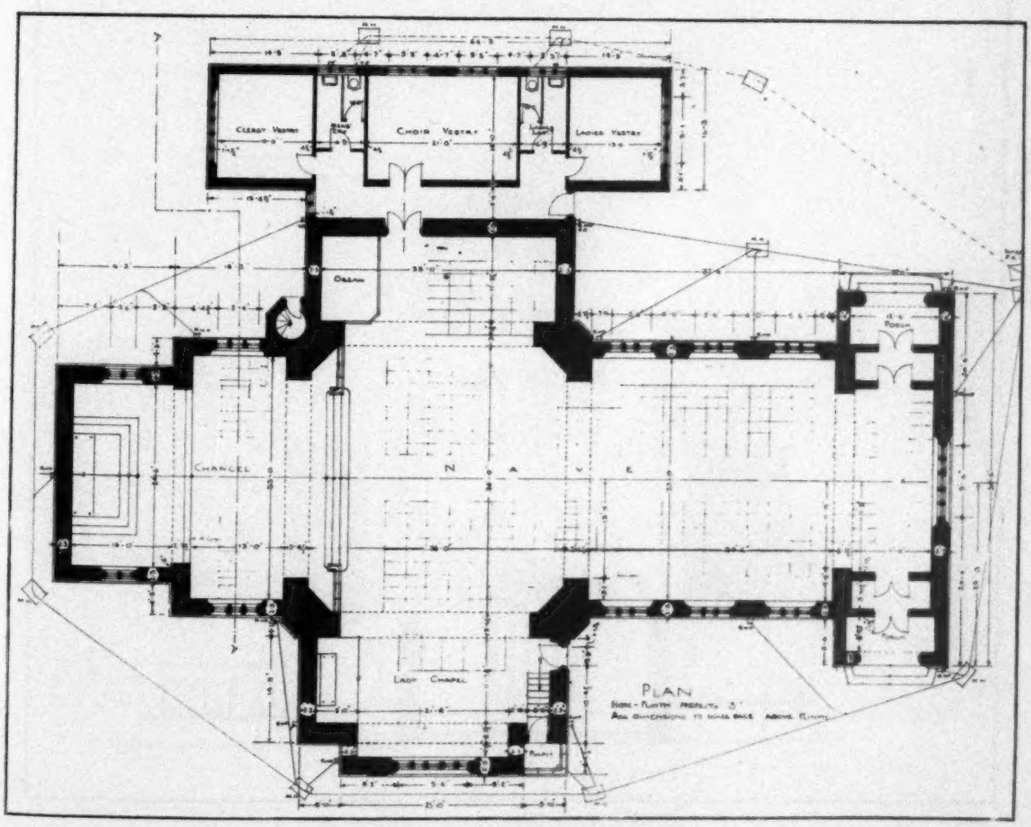
MR. H. S. GOODHART-RENDEL, F.R.I.B.A., Architect.



New Premises, St. Mary Street, Cardiff. Awarded Bronze Medal and Diploma for South Wales.

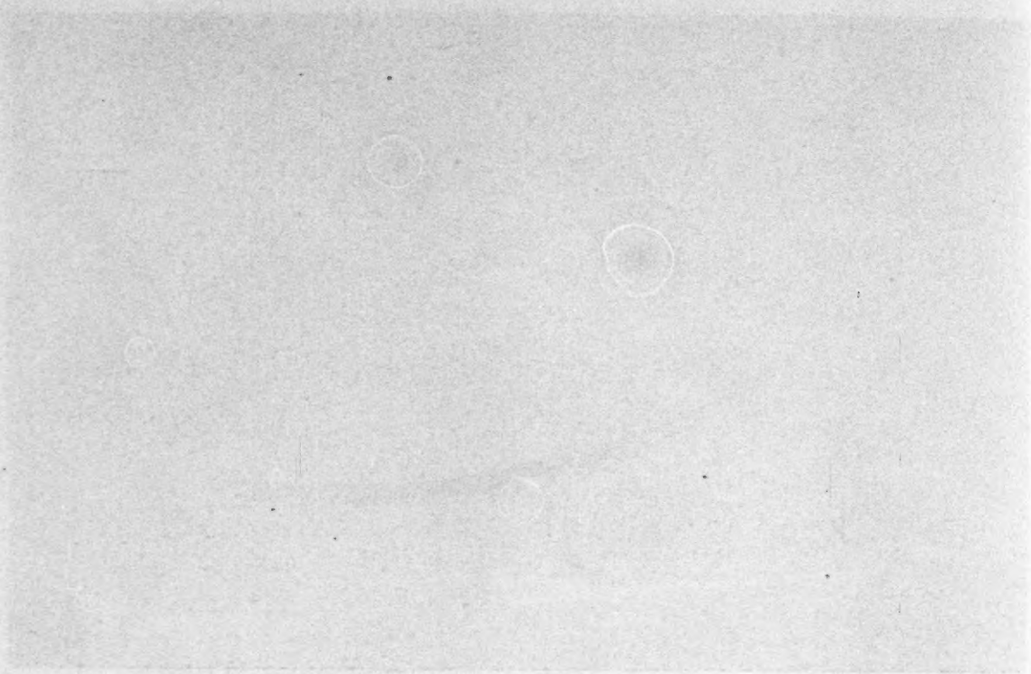
MESSRS. IVOR JONES AND PERCY THOMAS, A. and F.R.I.B.A., Architects.

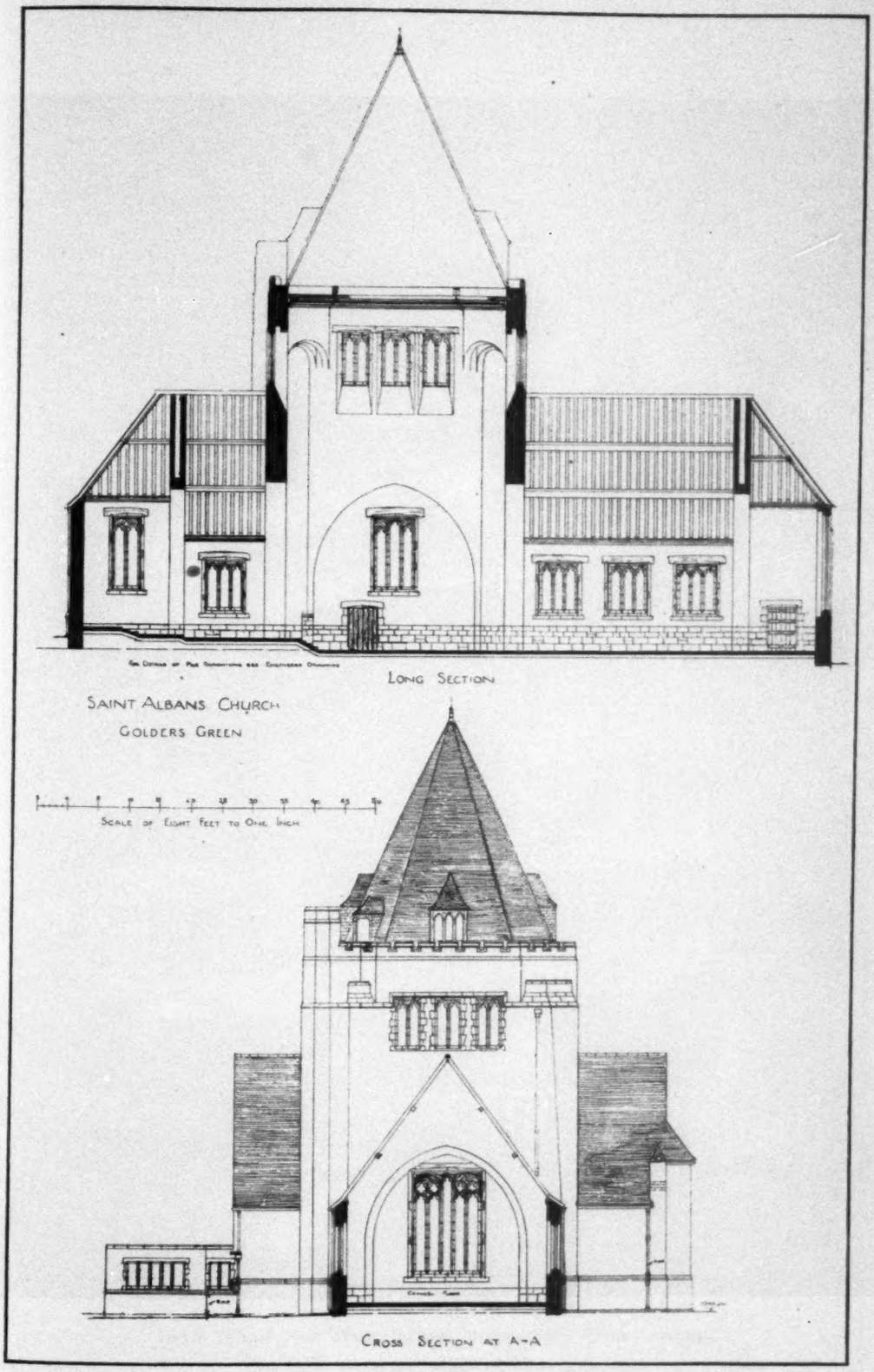
From a Model.



St. Alban's Church, Golders Green.

SIR GILES GILBERT SCOTT, R.A., F.R.I.B.A., Architect.





St. Alban's Church, Golders Green.

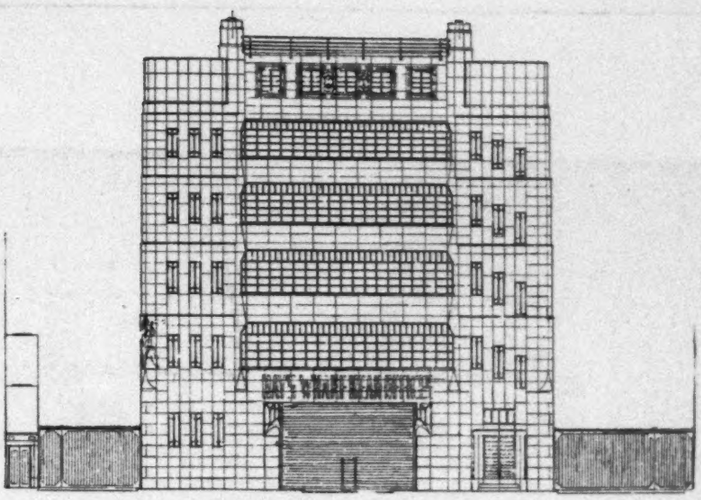
SIR GILES GILBERT SCOTT, R.A., F.R.I.B.A., Architect.

Hay's Wharf New Head Offices, Southwark: River Frontage.

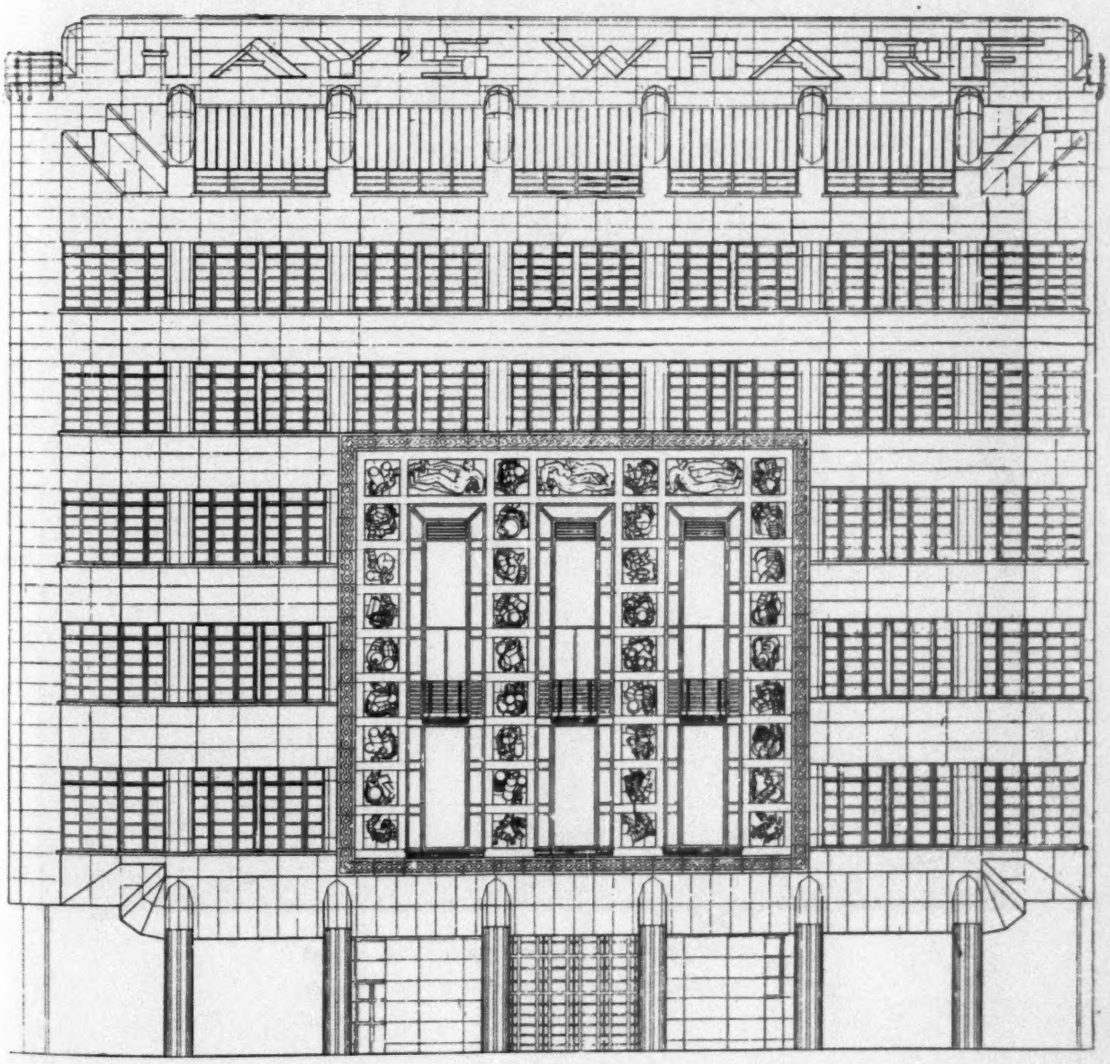
MR. H. S. GOODHART-RENDEL, F.R.I.B.A., Architect.

Hay's Wharf New Head Offices, Southwark: Tooley Street Frontage.

MR. H. S. GOODHART-RENDEL, F.R.I.B.A., Architect.



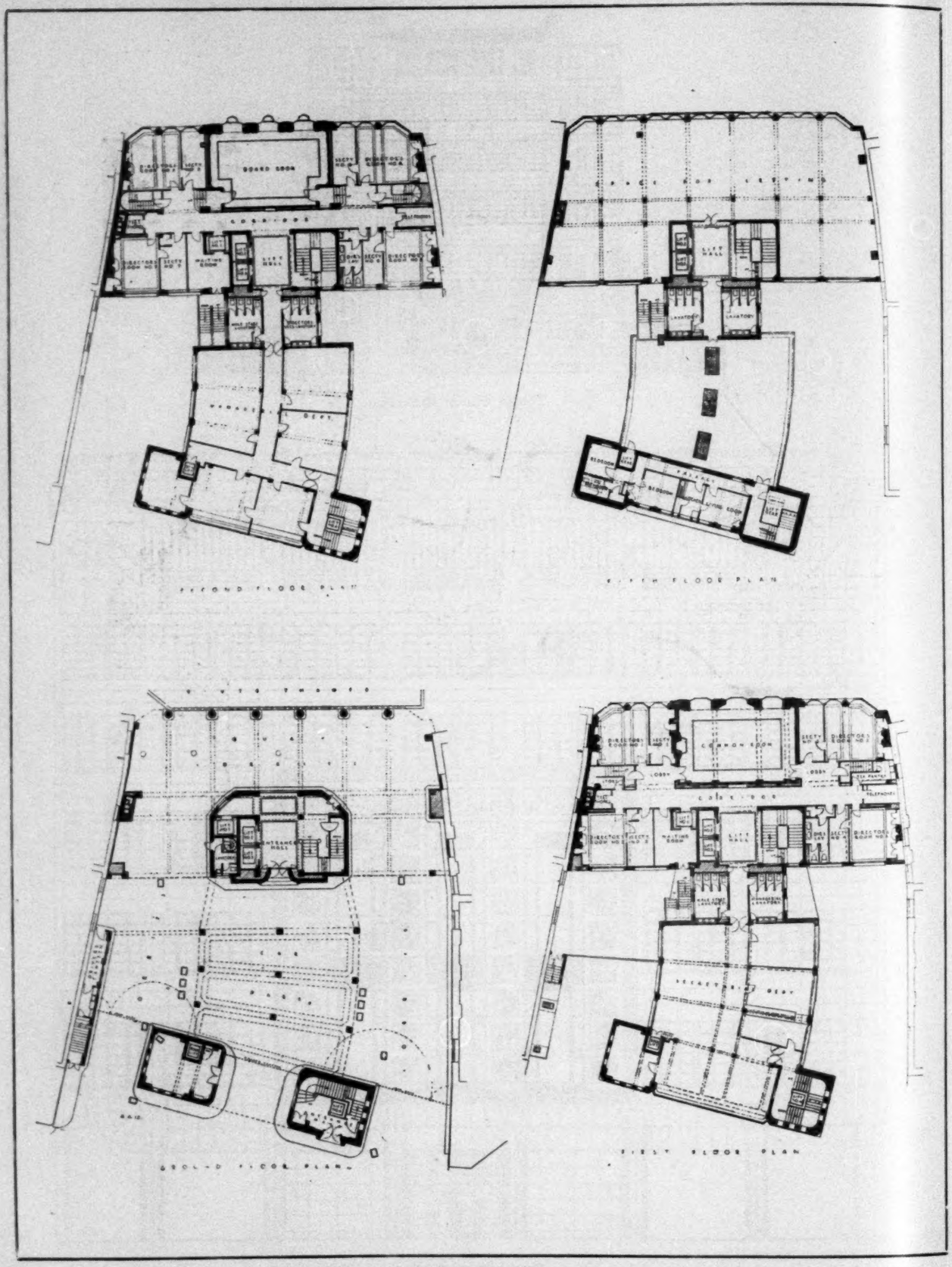
TOOLEY STREET ELEVATION.



ELEVATION TO RIVER.

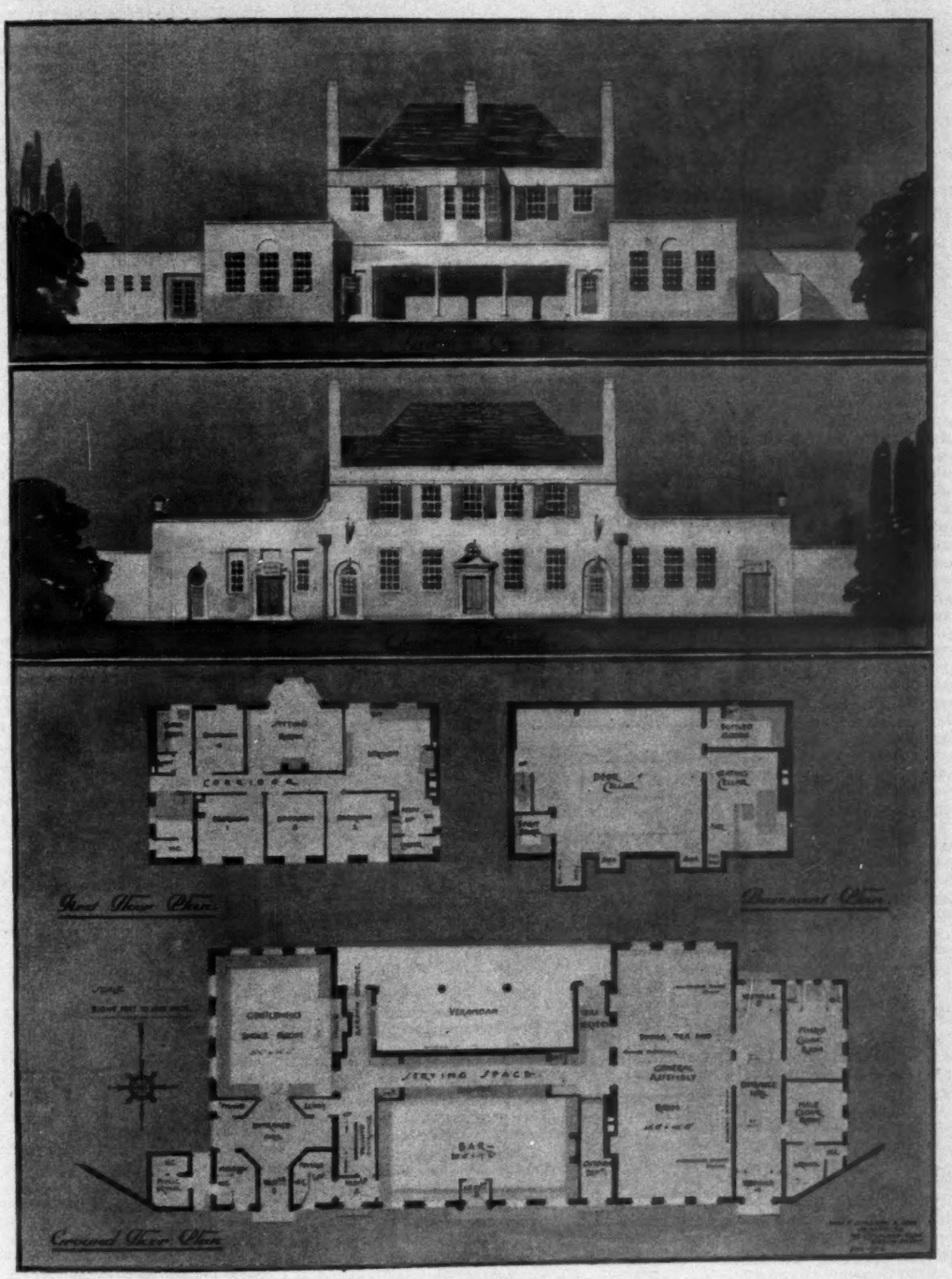
Hay's Wharf New Head Offices, Southwark.

MR. H. S. GOODHART-RENDEL, F.R.I.B.A., Architect.



Hay's Wharf New Head Offices, Southwark.

Mr. H. S. Goodhart-Rendel, F.R.I.B.A., Architect.



Design for Licensed Premises, Birmingham.

MESSRS. JOHN P. OSBORNE AND SON, Architects.

CHARTERED SURVEYORS' INSTITUTION

REGIONAL PLANNING AND ECONOMY.

Before the Chartered Surveyors' Institution, Mr. Thomas Adams, F.S.I., spoke on "Regional Planning and Economy." After outlining the origins of town planning policy in England, he turned to the question of direct economies from planning, and said that indirect and prospective values were admittedly to be obtained if planning was well done and properly applied. Such values consisted of improvements in environment, in living conditions, in convenience of communications, and in the distribution of building densities and uses that must, in the long run, prevent the recurrence of the waste and inefficiency that followed from haphazard growth. The case for those values had been made out even if the realisation of some of them appeared to be remote. If there was doubt on the positive side as to the ultimate savings that might be effected by good town planning, there could be no doubt on the negative side as to the losses that communities had to endure as a result of mis-planning and lack of planning. The evils of disorder and congestion were apparent in every modern city. They were artificially created, and, therefore, controllable evils.

Under normal conditions town planning should not cause additions to public spending, but merely give wise direction to spending. It should result in preventing wasteful expenditures either in doing something we ought not to do, or in doing something we ought to do but carry out at the wrong time. A plan might lead to conservation of things that would be destroyed if there were no plan; to abandonment of projects that were premature or unnecessary; or to carrying out of projects that were good investments. The least that could be said for it was that it was a basis for deciding what were the most and what were the least essential things to be done and the order of doing them. Regional and town planning was most necessary in times when economy was necessary, because, if wisely conceived, such plans enabled public authorities to guide their expenditures on the basis of knowledge of conditions and to decide what they could leave out as well as what they should keep in their budgets. Sound economy could not be obtained if expenditures were voted for separate projects without knowledge of how each project would fit in with a general plan. Mr. H. G. Wells had said that to solve the problem of unemployment we must accept the responsibility of rehousing all of mankind, rebuilding cities, and reclaiming the roads and countrysides. Well, if we agreed, where was the money to come from? The simple fact was that it could not be done except to a partial extent, and that over a long period of years, and only when we had a guiding plan to follow. The late Mr. Dwight Morrow, who was Ambassador to Mexico, a member of the Pierpont Morgan Bank and of the Committee on the New York Regional Plan, said, when asking him what was the cost of planning: "I do think it is quite demonstrable that the real cost in building up a community is the cost of not planning."

Where we had been most neglectful in England was in planning of industrial growth. When he spoke of the need for extending regional planning to deal with major economic activities, he had in mind the facilities for communication by water, rail and air; the distribution of power; and the development of industrial areas. With regard to chief means of transportation and sources of energy, those in combination were, and would, continue to be the greatest forces in promoting development of cities and prosperity of nations. As all knew, there was a tendency in England for manufacturing industry to concentrate in certain places, and a prospect of immigration of many new industries. It was pertinent to ask what steps we were taking to direct or control those movements in the interest of efficiency of industry and of the nation. One of the benefits we might obtain from the coming of new industries would be in adding to the efficiency of the social and mechanical equipment of industry in this country. If, however, that benefit was to be obtained, some degree of organisation and planning of the sites best adapted for industrial development in harmony with regional plans, would be essential. Without organisation and planning, the immigration might be harmful to the physical development of the country, and prevent the realisation of some of the economic benefits that should accrue. In connection with the probability of American manufacturers establishing branches in England, one underlying consideration that had to be kept in mind was that, on the whole, they would both expect more co-operation from, and would be willing to give more co-operation to, public and transportation authorities than British manufacturers had been prone to expect and give. Because of increasing recognition of the value of that co-operation, many leaders of industry in America had taken an active part and provided large sums of money in promoting regional and town planning, with the result that added emphasis had been given to economic, as distinguished from the social and æsthetic, objectives in the planning movement. American manufacturers in general were keen to obtain social advantages for their workers, well co-ordinated facilities for transport by rail and road, adequate and cheap power, and, in many cases, sites possessing special prominence and therefore advertising value. If the growth of industry was accompanied by better planning and distribution of the growth, it would be an incentive to its increase. It would mean that the introduction of new factories would not add to either the bolstering up of congested conditions in the existing centres or the abominations of ribbon development. By giving proper direction to regional planning, and emphasising its economic phases in relation to transportation and industrial development, and by using it to encourage the establishment of new centres of industry in the right places, comparable in physical character to garden cities, much could be done to meet the needs of the new movement and prevent it from doing injury to the country side and waterways.

The manner in which regional planning was now done meant that there was a tendency to regard the arrangement and distribution of industrial and other functions from a comparatively local and secondary point of view. Road communications and amenities seemed to be considered as primary, whereas, however important they might be, they were secondary to land utilisation for industry, business and residence. Industrial distribution was a national, rather than a regional problem, and required national study. More needed to be done in reserving definite sites for the use of industry after thorough examination of their suitability for this purpose. Industry would spread itself anywhere, to its own injury perhaps, if it was not encouraged to go somewhere. Normally not more than 5 to 15 per cent. of a town was devoted to industries, and it was essential that the greater proportion used for residence should not be injured by haphazard industrial growth.

The lecturer then gave a brief description of the New York Regional Plan, in which primary consideration was given to economic problems. The fact that conditions—physical, economic, social and political—were very different in the United States from those in England had to be borne in mind, but the difference did not mean that what had been done in New York was not of value in showing what should be done or what should not be done in London and other large cities in England. He then concluded by saying that at the present time perhaps the greatest need in England as an aid to planning for the future was to obtain a survey of transportation and industrial distribution in the United Kingdom for purposes of their co-ordination with the highway plans of the Ministry of Transport and the national plan being followed by the Central Electricity Board. Until such a survey was made, there could not be adequate and proper consideration given to economic problems in regional and town planning schemes.

SOCIETIES AND INSTITUTIONS

SHEFFIELD, SOUTH YORKSHIRE AND DISTRICT SOCIETY.

Colour in Architecture.

Before the Sheffield, South Yorkshire and District Society of Architects and Surveyors, on February 11, a lecture was given by Mr. L. H. Bucknell, F.R.I.B.A., on "Colour in Architecture." He said that, in beginning a study of colour, he thought it useful to consider the theories of colour, which from time to time had been propounded. It was usual to study the various proportions relative to form, not necessarily to use those proportions, but rather to develop a sense of form. So with colour: if the theories had been studied, though they might never be consciously applied in actual work, the user was richer in experience, and certain in the knowledge that, in cases of doubt, he could use his theory as a check. It was as well to begin with the simpler textbooks, such as those by Carpenter and Holmes, and to continue with the more elaborate treatises, such as those by Rood and Ladd-Franklin. This last book was one of great thoroughness and was exceedingly interesting.

Both in colour in pigment and colour in light the old three-colour theory was no longer held to be true. Owing to the impurity of the pigment, yellow and blue, for instance, would not produce a true green. It was reasonable to say that all elemental colours, i.e., those which could not be obtained by mixture, were naturally basic colours as far as pigment was concerned. How many basic colours were necessary to produce a full range of colours by mixture it was difficult to say, but, for general purposes, Holmes had taken twelve colours, and these, with black and white, would give a wide range.

A great knowledge of theory could not alone produce great colour decoration; a sense of suitability, of pattern, of quality, of finish and of material was equally important. It was extraordinary how frequently "suitability" seemed to be ignored, yet it was a primary condition. The decoration of buildings or rooms used for short intervals might have greater strength or less subtlety of colour than those in use for long periods, *e.g.*, a cinema or casino might have a more exuberant scheme of colour than a living-room or bedroom.

Every building must be a special case, and, though buildings might be broadly divided into sections, each section would have many sub-divisions. It might be true to say that the public rooms of an hotel might be more gay than those of a private house, and less wild than a cabaret, but there were many grades of hotel, and what would suit one might be very unsuitable in another.

Expression and character were more difficult to express, being more subtle, and we had to study carefully and with imagination the circumstances and people involved. This would apply particularly to domestic work

and to those buildings where the expression of emotions or ideals was an essential factor, as in a church. In schools, where the class-room occupied many hours of the child's day and had a great influence in the development of his character, carefully chosen colour might be of inestimable value. One could not imagine an atmosphere of varnished pitch-pine, dull green and stone-colour paint being helpful or adding pleasure to instruction. This was a matter which needed more attention. Children were extremely responsive to colour, and it seemed a pity that opportunities for its use were so rarely taken or made.

In domestic work the field of study was almost unlimited; although nearly all people saw the principal colours similarly, they were not all equally affected, some natures being much more responsive to colour than others. Certain colours would delight some and irritate others, and the effect of colour on the people concerned must be studied before a suitable scheme could be conceived.

The character of rooms, too, must be taken into account. A drawing- or dining-room might be bright and cheerful, and a bedroom reposeful. We were in the past too used to making our dining-rooms heavy, ponderous affairs. Since feeding was a necessity, we might make it pleasurable and surround it with light and reasonable cheerfulness. We got so little sun that the possibility of some compensation in colour should be explored. Colour could give much which our climate lacked, and, if it could not produce sun, it could at least provide brightness and cheer.

Colours generally had similar effects on the majority of people, but with varying intensity, according to their degree of responsiveness to colour. They had many qualities —repose, stimulus. They might be rich and vibrant or gloomy and ominous, delicate or strong, but the effects they had would depend naturally always on their use.

Yellow at one time was referred to as a bilious colour. It could be a wonderful colour, with the brightness of the sunlight and spring flowers or the richness of amber and gold. No one had ever called a daffodil bilious. It was a colour to be used cleanly, and, according to its quality and hue, might vary from the ultra-æsthetic to the joyfulness of "Scheherazade." The yellow room would depend, apart from the quality of the yellow, upon the supporting colours. Lemon yellow used with mauves and turquoise might provide too rare an atmosphere for some, but a rich golden yellow with oranges, violets and fine blues might be, on the other hand, too stimulating. Obviously, it must always depend upon the personalities of the occupants of the rooms decorated and of the light value of the rooms. He was inclined to think that always a room should have one dominant note, that on entering a room one should never be conscious of a "colour scheme," but only of a sense of pleasure; that if strong supporting colours were used they should be confined to incidental details, and the stronger the colours the smaller those details. A richly coloured Chinese vase was a joy in almost any room, but the same colours used in the same proportions on a large area would have a very different effect. Green, blue and red had all been accused of having baneful effects. Green "enervating," blue "mournful," red "of exciting the worst human passions." All these epithets obviously needed considerable qualifications.

Green could be enervating, but certain strong hues might be distinctly stimulating. It was a difficult colour, and certain heavy yellow-greens should, he thought, be entirely avoided as leading colours. On the other hand, a pure apple-green could be very beautiful. The value of the blue-greens we knew from the many fine Georgian examples.

Blue was another difficult colour; it might vary from the mournful to the rich heraldic and royal blues, or be of those curiously fascinating Persian and Chinese hues. It was a colour to be used boldly in noble apartments, but needed very great care if used in small rooms. One could imagine in a large room a wonderful Persian or Chinese blue with rich golden hangings and parquet floor; a parchment-coloured ceiling with hints of purple, blue-green and emerald; brocades or cut velvets to echo the general colour, so far from being mournful, being almost regal.

Red was the colour of passion and war, but also the source of loveliness and joy. Bakst and Lovat Fraser had shown us how wonderful red could be. On the other hand, some Edwardian dining-rooms had shown us how terrible. It was, he believed, a colour to be used sparingly, but was very full of life and vitality. He had seen a room of dull crimson and grey-green which to him was maddening. He also knew a room with a quiet, warm grey, a Chinese hanging of crimson vermilion, a dull gold frieze, a pillar-box red picture rail and ivory ceiling, and it was delightful. Red had greater intensity than other colours, and for that reason should be used in smaller areas.

It was curious how much we neglected ceilings. For years we had been satisfied with the chalk-line finish, yet in the past the ceiling had been one of the glories of a room. It might be due to our modern low ceiling. A low ceiling would not stand strong colour, but many of our large public buildings had high ceilings, and would, he thought, be greatly improved by colour, however simple.

There was one matter out of many in the use of colour which was all-important—the question of "distribution" or proportion. As architects, they were familiar with "proportion," the relation of the parts and the harmony of the whole. With colour it was similarly important. However perfect a selection of colours might be, if they were ill-proportioned, or, as it was better described, badly disposed, the result would be disastrous. This "disposition" was the most difficult of all the problems in colour, and only constant practice would bring success. We had to arrive at the same sense of proportion in colour as we had in form. It was not a matter of taste any more than in any other form of æsthetic expression, but, owing to the infinite number of combinations, was more difficult to reduce to a formula.

WEST YORKSHIRE SOCIETY OF ARCHITECTS.

Working-class Flats.

Mr. Norman Culley, President, took the chair at a meeting of this Society, held at the Leeds College of Art, on February 11, when a lecture on "Working-class Flats" was given by Mr. G. Grey Wornum, who pointed out that the design of working-class flats had its birth in this country somewhere about the 'eighties; and the 'nineties saw the forerunners of the best examples in this country to-day. These were due to the enterprise of the L.C.C., and every other civilised country had taken advantage of studying that Council's work. If England had, for the moment, lost the lead in this direction, it was due to her stricter by-laws, her lack of money to spend on site work and social amenities, and on account of climatic conditions affecting both construction and the manner of living.

The lecturer gave a brief outline of the birth of the modern tenement building from about 1892, when four-story buildings with two flats per floor giving off each staircase was the accepted system, which then progressed in England until the outside approach-balcony was mainly used, and buildings without lifts were run up to five stories high, the top story floors being coupled together as two-floor flats. In many cases it was found better to place all the balcony approach fronts with their bathrooms and kitchens facing each other in order to give a better prospect for living room and bedroom windows.

So far as the laundry question was concerned, it was emphasised as undesirable to have wet washing drying in living rooms, and up to the present the roof drying room was the accepted solution, and many recent plans and views were shown.

Recent Viennese housing blocks came under review, and showed the atmosphere of beauty which the social amenities provided; examples which the lecturer observed, they could all study, as they had aroused admiration throughout the world. Flats in Germany were touched upon, and the lecturer said it was to be noted that the Germans as a nation were far more communally disposed than the English. There, most of the laundry and bathing blocks were centrally housed, and were used in common by the occupants of the flats.

Mr. Victor Bain, in moving the vote of thanks, said he regretted that they in Yorkshire did not seem to have taken advantage of what London had done in the matter of such flats. He did not think it was necessary to go to the Continent to acquire ideas which, after all, had only been borrowed from London.

Mr. W. Alban Jones, seconding the motion, said he thought they could learn a great deal from the Continent, especially in their system of employing coloured cement for their outer walling, as compared with the drab and dirty effects produced in many of our local housing schemes. These were often a wilderness of small houses, without any signs of a communal centre of common activities.

Messrs. Norman-Culley and G. H. Foggitt supported the motion.

INCORPORATED ASSOCIATION OF ARCHITECTS AND SURVEYORS.

A second of two lectures on "The Housing Acts of 1925 and 1930" was delivered on January 29, before the London and Home Counties Branch of the Incorporated Association of Architects and Surveyors, at the Institute, 1, Wilbraham-place, Sloane-square, London, S.W.1, under the chairmanship of Mr. A. Mander (chairman of the branch), the lecturer being Mr. Leslie Maddock, barrister-at-law. Housing legislation in this country, said the lecturer, apart from the question of town planning, had been engaged since the war in an earnest, if costly, endeavour to remove two obvious difficulties.

Firstly, a great and successful attempt had been made to remove the grave housing difficulty caused by the combined effects of the war and the ordinary requirements of the growing population. In the second place, efforts were directed to abate the widespread evil of unhealthy houses and unhealthy areas known conveniently as slum property. The legislation in which those two great reforms were developed was consolidated in the Housing Act, 1925, with which the Housing Act, 1930, was to be construed as one. After comparing the provisions of the two Acts, the lecturer said that a section of special interest to the architectural profession was the 9th Section of the Housing Act, 1930, which required that the local authority must satisfy the Minister that they were providing or securing the provision of sufficient new dwellings to house persons displaced from a clearance area or improvement area. One problem which had arisen with regard to rehousing had been satisfied by the provision that the actual persons displaced would not necessarily have to occupy new houses built, since the new houses might not be conveniently placed for access to the employment of some of the individuals to be rehoused. The main condition was that equivalent accommodation must be made available, though the actual persons displaced would not necessarily be those that moved into the new houses. Apart from special circumstances convincing the Minister, the prescribed scale would be that a 2-bedroomed house would accommodate four persons, 3-bedroomed house five persons, 4-bedroomed house seven persons. In the case of rehousing in flats the standard would be decided subject to the approval of the Minister, by all the facts and circumstances of each case.

THE COLLEGE OF ESTATE MANAGEMENT.

Compulsory Acquisition of Land.

In the first of two lectures at the College of Estate Management, Lincoln's Inn Fields, on Tuesday, February 2, Mr. Sydney A. Smith, F.S.I., F.A.I., dealt with the com-

pulsory acquisition of land by public authorities. Public bodies, he said, were given advantages by modern legislation over ordinary promoters or undertakers. The acquiring authorities were given better terms in respect of cheaper purchase price; they got possession more quickly, they had no need to make a deposit, and they were given preferential advantages in other respects. All these things were grafted on to the old law. He found, on talking to people on compulsory purchase, that there was a general impression, particularly among officers of local councils, that everything on the subject was contained in the Acquisition of Land Act. As a matter of fact, there was not very much contained in that Act, although what was contained was vital; the underlying legislation was the Lands Clauses Acts, 1845. It was this which prescribed the notice to treat and many other matters. Indeed, 80 per cent. of the law of procedure in compulsory purchase was still contained therein, and applied unless it was varied specifically by the special Act under which a company was working.

Referring to the basis of value, which the Lands Clauses Acts did not define, the lecturer said that the Acquisition of Land Act had ruled out the principle that the basis should be the value to the acquiring authority for the purpose for which the land was being acquired. There was still one exception, where the value to the acquiring authority had to be paid, and this, curiously enough, had the effect of reducing the compensation instead of increasing it, namely, in the case of sites acquired by public authorities under the Housing Act. But in general the Act of 1919 cut out the value to the owner and prescribed market value. This was by no means such a low value as people were inclined to think. It meant taking into account every possible competitor. It was not auction value, though it included what might be realised at an auction, but it included also the competition of neighbours, and the competition of the tenant who might be occupying the property. Under the Acquisition of Land Act the arbitrator was entitled to consider what terms might be acquiesced in. The present official arbitrators were inclined to give some attention to estate duty valuation. They might also consider returns of capital value.

In the second of his two lectures to the College of Estate Management, Lincoln's Inn-fields, on February 9, Mr. Sydney Smith, in dealing with the acquisition of land by public authorities, spoke on the question of betterment. He reminded his audience that when Kingsway was constructed the London County Council, considering that it ought to get some return from owners of adjoining property which was bettered as a result of the new undertaking, decided to levy a betterment rate. Before any action was taken in the construction of the street, the premises likely to be benefited were valued, and, three years after the improvement was completed, were valued again, and a rate of 3 per cent. on half the difference in value was imposed on every property which showed improvement. It sounded a good scheme, but in practice it had not worked very satisfactorily. The making of the valuations and the holding of the inquiries proved far too costly. The same thing had been tried in one or two other parts of London, and in the country, but there again it had not proved very successful.

Something like the same provision was to be found in the Town Planning Acts; if any properties were benefited by a town planning scheme, the town planning authority might impose a betterment rate to recover from the owners half the benefit which they had derived, and in the case of a dispute the matter was settled by the official arbitrator. That was much less costly than the original scheme. Betterment might be charged under the Housing Acts, and there was provision that a betterment charge might be made on owners whose properties were benefited by the removal of obstructive buildings.

The lecturer impressed on students the need for making themselves familiar with these modern provisions. He also described the kind of betterment which was imposed under the Light Railways Act, 1896. Dealing with injurious affection, he pointed out that in assessing compensation under this head the character of the trade of a shop must be taken into account. Thus, if a tobacconist whose premises were on a station approach were disturbed, and if he was unable to get similar accommodation, he could make a higher claim than could a baker or a milkman whose trade was largely carried on at the doors of his customers. In the case of the tobacconist the claim might be settled by two years' purchase, although in a similar case as much as four years' purchase had been mentioned. In the case of a dentist or a doctor who was dispossessed and had to seek new professional premises, the claim would be so much less. The maximum loss was in the case of public-houses, because if the premises were closed down the licence was lost, and if a new licence was obtained it had to be subject to a monopoly value. In the case of licensed premises perhaps eight, nine or ten years' purchase might be paid.

BUILDING SCIENCE

THE January issue of "Building Science Abstracts," now in the Press, contains summaries of many interesting contributions to the literature of building and building materials. The quarry owner, architect and builder will discover useful information in a description of the methods employed by the German Railway Company in evaluating the weather resistance of building and other stones by systematic investigations of quarry faces and by laboratory tests (Abstract No. 1). The clay technologist will find a number of papers dealing with the manufacture of heavy clay products, among which may be mentioned one dealing with the production of green-coloured bricks (Abstract No. 11), and another with the selection of materials and manufacturing methods likely to reduce efflorescence on bricks and brickwork (Abstract No. 15). A subject seldom dealt with in the literature, but of interest to the designer of shop fronts, has been studied by Mr. H. Kuhl, who discusses the corrosion of glass by the glues and cements commonly used for applying lettering, etc. This paper includes a list of cements used for jointing glass to glass, porcelain and metal (Abstract No. 19).

The producer and user of plasters will find interest in an abstract of a lecture by Mr. A. D. Cowper, of the Building Research Station, on calcium sulphate plasters (Abstract No. 39); in an important contribution, by Messrs. C. S. Gibson and R. N. Johnson, to our knowledge of the setting of plaster of Paris (Abstract No. 44); and in a description, from a German source, of plaster defects and their prevention (Abstract No. 45).

The grading of concrete aggregates is dealt with in Abstract No. 50, which gives details of a concrete specification. Of ever-present interest are the problems associated with the production of durable concrete. These find mention in informative abstracts of a very detailed study of the effects of a large number of surface and integral waterproofers (Abstract No. 52), and of an investigation of the value of metallic coatings, applied by the spray process, in protecting concrete from attack by corrosive solutions (Abstract No. 53). The use of breeze concrete is comprehensively dealt with in a paper recently presented to the Institution of Municipal and County Engineers by Mr. B. H. Knight (Abstract No. 54). The United States Bureau of Standards regularly publishes reports of interest, and included among the abstracts under review is a valuable report of work carried out by that institution on the physical properties of cast stone (Abstract No. 56). The cement manufacturer and user will be interested in some studies of the relationship between the fineness and strength of Portland cement (Abstracts Nos. 62-5).

In yet another field interesting and valuable information can be gathered with regard to the corrosion of metals and the use of protective paint coatings (Abstract No. 87). The damages caused in buildings by various types of wood-boring insects constitute a problem frequently encountered by architects and others. Abstract No. 95 contains a description of the use of a hydrocyanic acid fumigant for the eradication of these destructive pests (Abstract No. 95). Railway engineers and others interested in the use of paint in the protection of metals from corrosion in smoke-laden atmospheres should consult Abstracts Nos. 100 and 103.

A section of the abstracts of peculiar interest to the engineer and architect is that dealing with the theory and design of structures (Abstracts Nos. 114-129). Here this month we find abstracts of papers describing studies of the strength of reinforced concrete columns, the strength, elasticity and shrinkage of reinforced concrete, creep, augmented steel construction, and the strength of timber struts and scaffold poles. Readers, both at home and overseas, should refer to an informative abstract of a paper which deals, generally, with engineering problems encountered in the tropics.

The recent report of the Steel Structures Committee of the Department of Scientific and Industrial Research has focused the interest of many in this field. Abstract No. 133 summarises a review of recent progress in steel-frame construction in Denmark, France and Germany. The use of reinforcement in brickwork, a type of construction successfully demonstrated in this country by Brunel, is attracting increasing interest both here and in the U.S.A. Abstracts Nos. 139 and 140 contain the salient results of important studies in this field which are in progress in the latter country. The results of strength tests on beams and slabs clearly show the practical possibilities, well recognised in India and Japan, of this form of construction.

It should be borne in mind that a great store of classified information collected from the literature of building throughout the world is held by the library and intelligence service of the Building Research Station. To this store, "Building Science Abstracts" forms the key, and the whole of the information is available free of charge to inquirers.

Considerable prominence has been given in the daily Press to reports of decay appearing on the surface of Cleopatra's Needle, and due to the effects of London's polluted atmosphere. These reports undoubtedly attract attention to the grave problem of the deterioration of the fabric of buildings in urban atmospheres, which, according to Sir Frank Baines, must have cost the nation from £55,000,000 to £60,000,000 during the last quarter of a century. The problem of the decay of building materials and especially of natural stone used for building is receiving considerable attention at the Building Research Station, and reports of the fundamental research and practical work carried out there have been published in the annual reports of the Building Research Board. Very shortly a special report on the weathering of natural building stone will be issued by H.M. Stationery Office. This report combines an exhaustive summary of hitherto published information with an account of the experimental work which has been carried out at the Building Research Station during the last six years. This publication is a document of 139 pages, is profusely illustrated, and includes a comprehensive bibliography.

TOWN PLANNING INSTITUTE

Dr. R. C. Maxwell (President) took the chair at Caxton Hall, Westminster, on Friday night, when Mr. Edward Unwin read a paper on "Social, Æsthetic and Economic Comparison of Grouped and Ribbon Forms of Development."

Mr. Unwin said he had to argue a case which must be (at least to members of the Town Planning Institute) a foregone conclusion. Nobody really believed that ribbon development was an economical or desirable form. He believed it would be found that once the incentive of free building frontage and free advertisement, which the speculative builder now gained by main road development, was removed, there would not be anyone who would suggest that ribbon or strip development was a reasonable form. The conclusions, therefore, that he would attempt to substantiate were: (*a*) that development should, so far as possible, take place off the main roads, leaving the latter unhampered for their proper purpose; (*b*) that the completest possible separation of the two functions of roads was desirable, it being as important to keep development roads free from through traffic as it was to keep traffic roads free from development; and (*c*) that the most satisfactory form of development was the definite centralised group of limited and known ultimate size.

In comparing costs, it was difficult to get a fair comparison of existing examples, all of which had some special circumstances, favourable or unfavourable, to prevent their being regarded as typical, and he had had to rely mainly on estimates prepared for alternative methods of development. Those estimates, even if the prices were not entirely up to date, gave a reasonably fair comparison, as the same basis of cost was taken for all. Those figures, so long as they took total cost of development, did not show any advantage in favour of ribbon development. If, however, they attempted to divide the cost between that normally borne by the developer and that borne by a public authority, they might arrive at one of the main causes of ribbon development. They would find that in cases where the total cost of ribbon development was greater than that of grouped development, the cost borne by the developer was less, and the extra cost borne by the local authority made up the difference; in fact, they would find that under present arrangements authorities had to subsidise just those forms of development which in the public interest they ought to prevent, and a more equitable adjustment of such costs might be among the first steps towards a better form of development. That was to say, that one of the main incentives to develop on the main roads was that, if a builder made his own roads, he had to construct or pay for the sewers, etc., before the local authority would take over the road, whereas, if development took place on an existing arterial road, he not only escaped road charges, but commonly had his sewers, etc., also provided out of public funds. The Town and Country Planning Bill contained a clause enabling authorities to prohibit development where it would involve them in undue cost for the provision of services which, if fully applied, might be one means towards solving the problem.

The problem of the future would be that of by-passing the by-passes, a problem that would in a number of cases be more difficult to solve than it would have been had the road works of the last ten years not been carried out. A case in point was Barnet by-pass, where in four miles about three and a-half had the frontages completely occupied by buildings. There were eleven direct cross-roads and thirty-one side turnings in this distance, also two new shopping centres with shops fronting directly on the main arterial road. That was true of other major by-pass roads.

To obtain comparative estimates of cost, the following method had been adopted: Examples of development on the Barnet by-pass were examined and measurements taken of frontage, waste frontage at junctions, distance between junctions, position of sewers, etc. Based on this information, diagrams were drawn and the cost of development for various units estimated by measuring the appropriate road surface, footpath, sewer, etc., applicable to each, as well as the varying length of connections up to the front boundary of the plots. A frontage of 32 ft. for a house with a garage was taken as being the typical one on the section of the by-pass; in the case of the arterial road nothing had been allowed for footpaths or the cost of the road itself, as these would have been built had no development taken place; but the cost of sewers and services had been included, as these were required for development, and would not be required for traffic. The cost of development for individual houses and road junctions thus obtained had then been applied to obtain the cost of larger developments.

Table showing Development Costs of Various Units of Frontages of 32 ft.

A.—With garage including for concrete drive from carriageway, as found on the Barnet By-Pass.
B.—Without garage.

	A. £ s. d.	B. £ s. d.
1. Per house on arterial road	98 5 8	68 15 8
2. Per house on service road by side of arterial road ...	107 15 8	95 15 8
Same by deducting footpaths	99 14 8	87 14 8
3. On 40 ft. builder's road...	75 18 10	68 8 10
4. On cul-de-sac	45 17 11	44 0 0
5. On cul-de-sac including for loss of frontage at junction with a 50 ft. road	62 3 11	60 6 0
6. As 5 above with junction to service road	64 6 0	62 8 1

Extra cost per corner on various types of road junctions.

	A. £ s. d.	B. £ s. d.
7. At junction of 40 ft. builder's road with arterial road ...	228 19 0	250 8 0
8. 40 ft. builder's road with 40 ft. builder's road	233 17 2	233 17 2
9. 50 ft. road with cul-de-sacs	228 4 4	228 4 4
10. Cul-de-sac with service road	240 4 3	240 4 3
11. 40 ft. road with service road	250 8 4	251 8 4

The extra corner costs had to be multiplied by two in the case of every road junction and by four for every cross-road. The first conclusion they must draw was that for economical development, as well as for traffic, the elimination of every unnecessary crossing was essential. Next they discovered that the cost of development on a 40 ft. builder's road was less than on a 100 ft. arterial road. In spite of the fact that on a 40 ft. road the whole cost of the road itself was included, and that on the arterial road it was omitted, with the garage connections as on the Barnet by-pass, this difference was substantial; without garages, the difference was very much less, but was still in favour of the builder's road.

The service road was the most expensive method, but footpaths that would have been needed on the arterial road, if they were not provided on the service road, were included, and their omission, to give a fairer comparison with the arterial road development, brought the cost down by £8 1s. to £99 14s. 8d. in Column A, and £87 14s. 8d. in Column B. So that, in the case where all houses were to be built with garages, the extra cost of the service road was negligible. In practice it might be found possible to use service roads of less than 18 ft. carriageway, and reduce the cost further; and in many cases the removal of all standing vehicles from the arterial road would, in addition to reducing the number of accidents, enable the carriageway of the arterial road to be reduced by one line of traffic, and so produce a substantial saving in the total cost of arterial cost, plus development.

Development with service roads would, he suggested, be the right method where a main road passed through a centre of development giving a special value to the frontage, particularly where such frontage was likely to be used for shops or business premises. But clearly, in so far as cost was the determining factor, the best method of development was by ordinary builder's roads combined with cul-de-sacs. The economy of the cul-de-sac was even greater than that shown in the table of unit costs, because he had included the unit cost of a house in a cul-de-sac bearing its share of the loss on the corner plots, and it was still cheaper than the unit cost of a house on a 40 ft. road, wherever they could replace a 40 ft. road having junctions at both ends by two culs-de-sac, they had saved, in addition, the wastage of four corner plots, or £935.

A builder's layout on an arterial road had been taken as it was, and in the second example another road was put in to avoid junctions with the arterial road; a connection with the arterial road had not been included, as those cross-roads in existence prior to its construction were in the area under consideration ample for all reasonable needs. In spite of the fact that the average price per house included a proportion of cost of services of six plots not used, the cost of development worked out at:—

With junctions to arterial road.		With extra parallel road.	
A.	B.	A.	B.
With garages.	Without garages.	With garages.	Without garages.
£ s. d.	£ s. d.	£ s. d.	£ s. d.
6,998 14 0	6,130 5 6	5,792 15 0	5,367 0 0
Average per House.			
97 4 1	85 2 10	87 15 5	81 6 5

A village of a few hundred inhabitants, developed along one main road, and only stretching for a few hundred yards, had no special drawbacks before the days of heavy traffic. It was an economical form in that there were no road junctions; distances were so small as not to matter; development was fairly continuous within the limits of the village; and these limits were sufficiently defined to make of such village a very definite group. If, however, they compared the urban amenities available to a grouped development of 20,000 people in a satellite town with the conditions of a similar population housed by ribbon development, the case became very different. The housing of such a population (disregarding for the moment other parts of the town), would consist of about 5,000 houses and would occupy, at an average density of rather less than eight to the acre, one square mile. Add 10 per cent. for shopping, etc., and 10 per cent. for open spaces inside the town. They had thus a town occupying 1.2 square miles. Such a town could support a really good shopping centre, several elementary schools, a secondary school, clubs, a good cinema, and probably some sort of theatre. Nobody in such a development need be more than half a mile from the shops, churches, town hall, etc. They would all be less than half a mile from an elementary school, and not more than three-quarters of a mile from a secondary school. The open country would not be more than half a mile away, and those travelling to other places by road would only have a similar distance, on the average, to drive through built-up areas and then a clear country main road. It was not too much to say that such people would be able to enjoy most of the advantages of town life, combined with many of those of country life. What was true of shops would also be true of schools, entertainments, clubs, libraries,

and all those things which went to make up the advantages of town life. In fact, the contrast was so complete, and the idea of 20,000 people ever going to live in one long ribbon development, if they were given any choice, was so absurd, that it would be a waste of time to discuss it further. One further point must be stressed which his comparison of cost did not bring out, namely, the importance of developments of known ultimate size; in such case, sewers and all services could be calculated economically for the work they would have to do. Nobody could know the length to which an unplanned ribbon development would spread, and as in many cases it was sporadic and not continuous, the length of sewers, water mains, gas mains and other services might be five or ten times the length of frontage actually occupied.

Mr. J. A. Rosevear, in proposing a vote of thanks to the author, said Letchworth and Welwyn were two examples of grouped development of considerable size, but it was interesting to note that recently the Letchworth Urban District Council were pressing for a widening of the carriageway in the shopping centre, and this could only be done by taking from the footpath and cutting down the trees planted in the early days. The roads were, of course, considered, when planned, to be of adequate width. Mr. Unwin had shown plenty of footpaths on his sketch for a town, but difficulties arose with regard to lighting, policing and maintaining them.

Mr. James Adams seconded the motion, and said he did not consider it possible to design a road on an economic basis to serve the purpose of an express highway and an access road to provide frontages for building. It was not enough to provide local authorities with enabling powers, but they had to demonstrate the advisability of making the authorities use the powers. He felt that one of the greatest hopes for the solution of the problem of the relation of the highway to development was in a certain type of parkway development.

Col. Bressey (chief engineer, Ministry of Transport) pointed out that there was nothing to prevent the local authorities along arterial roads town-planning them years ago. These lectures should be delivered before the town-planning authorities, who were extremely apathetic. They heard of the diabolical activity of the road engineers, but the slowness of the town planners in catching them up was painful.

The vote of thanks was passed.

Mr. Unwin, in reply, said that Col. Bressey blamed the town-planning authorities, but those authorities might equally blame the law, for the present law regarding compensation had restricted their activity. He suggested that the hard-headed engineers should help them, and considered that Col. Bressey's department could perform wonders if the Ministry would introduce a one-clause Act as follows:—"No further opening, gateway, crossing or access way may be provided to any classified road without the permission of the Ministry of Transport."

Town Planning.

The following town-planning progress in England and Wales for the month ended January 31 is recorded:—

Scheme approved (Stage C).—Middlesex: Ruislip Northwood U.D.C. (Amending Scheme No. 3).

Draft Scheme adopted (Stage BBB).—Middlesex: Southgate T.C.

Preliminary Statement approved (Stage B.B.).—Surrey: Epsom R.D.C. (Ewell and Cuddington).

Preliminary Statements submitted (Stage B).—Sussex: Seaford U.D.C.; Worthing T.C.

Resolutions received (Stage A).—Staffordshire: Tettenhall U.D.C., Walsall T.C., Walsall R.D.C. Surrey: Surbiton U.D.C. Worcestershire: Dudley T.C., Stourbridge T.C.

LAW REPORTS

KING'S BENCH DIVISION.
Before JUSTICES TALBOT and MACNAGHTEN.

DRAINAGE DISPUTE LIABILITY.
Willesden U.D.C. *v.* Rush and Another.

The Court had before it the case of the Willesden U.D.C. against Rush and Another, which was an appeal by Miss Rush from a judgment of Judge Cluer, sitting at the Willesden County Court.

Mr. Dove, for the appellant, said in the Court below an action was brought by the Council under Section 67 of the County Court Act, 1888, to enforce a charge on certain property, created by Section 25 of the Public Health Act, 1875. The short point on behalf of his client was that the action by the Council was misconceived in that it was brought against the person who had no interest in the property charged. Although the owner of the property was, in the course of the hearing, added by the Judge as a defendant, yet no amendment of the claim was made so as to claim relief against him, and in the end the Judge made an order against Miss Rush, the original defendant. This order against her was directing the sale of the property, and that she should hand over the deeds.

Counsel said his instructions were that Miss Rush had no interest in the property, and counsel's contention was that the order had been made against the wrong person.

Proceeding, counsel said Mr. Rush, the father of Miss Rush, was the owner of the property, which was situate at Chichester-road, Kilburn, which was let to a tenant named Saville. Miss Rush collected the rents and paid them over intact to her father. That went on until January, 1931. In July, 1930, a leak was discovered in the drains of the house, and on September 30 notice was served to repair the drain. The work was not done, and in the end the Council did the work. In January, 1931, the Council sent Miss Rush a letter demanding £59 odd, the cost of the work, and this had not been paid.

Under these circumstances counsel submitted that the action had been misconceived.

Mr. Hodgson, for the Council, contended that Miss Rush was the owner of the property for the purpose of the Public Health Act.

After long legal argument the Court discharged the order against Miss Rush, and found Mr. Rush liable, and ordered him to bring into Court or produce to plaintiff's solicitors for inspection the deeds of the property.

KING'S BENCH DIVISION.
Before MR. JUSTICE WRIGHT.

DAMAGE BY FIRE.
Geo. West, Ltd., and Express Rubber Co., Ltd. *v.* Griggs & Son.

Mr. Justice Wright, on Friday, February 12, delivered his reserved judgment in the action by Geo. West, Ltd., and Express Rubber Co., Ltd., Mortimer-street, W., against Griggs & Son, Victoria-street, London, building contractors, claiming £25,401 for damages resulting from a fire.

The defence was a denial of negligence.

Plaintiffs alleged that they had suffered in consequence of a fire which broke out on premises in Portman-mews North, which at the time were in the temporary occupation of the defendants for the purpose of reconstruction, on April 22, 1929. The plaintiffs alleged negligence on the part of the defendants in laying certain electric wires without any protective steel piping and that the wires were in too close proximity to inflammable material of felt and old timber, which composed a partition erected temporarily to divide plaintiffs' premises from the other part of the building, where reconstruction was in progress.

Judgment.

His lordship, in the course of an exhaustive judgment, said that the plaintiffs alleged that the wire was allowed to be in such a position and condition that an electric escape took place, and that caused the intense heat in the neighbourhood of the inflammable woodwork, which rapidly attacked the partition and caused the calamity. The plaintiffs' case depended upon Col. Buckle's evidence, but the question was how far this evidence was corroborated or refuted by other witnesses as to the electric phenomenon, which Col. Buckle alleged occurred. Col. Buckle spoke of a high-resistance lead from the live wire to the adjacent negative wire. Many things were left more or less in obscurity, and plaintiffs had not called any witnesses to support Col. Buckle's evidence, which had been disputed by the defendants in some of its material aspects.

Plaintiffs contended that the wires came down through the scaffold poles, and that the fire was caused through electricity and that the fire concentrated in that area, until it reached the screen, where it expanded in a fan-shaped fashion, and that as soon as it arrived at the inflammable partition the fire spread with great rapidity. His lordship commented on the fact that Col. Buckle made only a cursory examination as to the course of the wires and did not trace them to the fuse-box, nor did he examine the basement. There was no wonder at this distance of time it was difficult to obtain precise evidence as to what was the exact position of the scaffolding. Whether there were heaps of scaffold poles touching the screen or not, they were probably not so near as Col. Buckle thought and nearer than the witnesses for the defence thought. Before Col. Buckle arrived on the scene many of the poles had been thrown on the top of other piles of poles, and therefore the pile Col. Buckle walked over was only in part the pile which existed before the fire, and therefore it was impossible to say how far the fire began in connection with those timbers.

The official report of the fire brigade superintendent was that the cause of the fire was unknown, and having regard to the curious character of fires and the circumstances under which they arose and developed, that was a sensible conclusion. A pencil note was added to the report that the fire might have been caused through a light thrown down, but such an explanation did require a great scope of investigation and did not mean anything more than, as far as the fire brigade was concerned, that the origin was unknown.

His lordship said he was not prepared to say that the fire originated in the way the plaintiffs alleged. It was impossible to say whether or not the wires were fused by electricity or fire, and plaintiffs had failed to prove a material link in their case. Plaintiffs had left the Court in great difficulty in their failure to make any attempt to compare the remainder of the two wires or ascertain their exact position.

His lordship said it was quite impossible for him to hold that the wires were ever in the position at the time of the fire postulated by Col. Buckle, and if that conclusion was sound, apart from all the other difficulties which had troubled him in the case, it was quite impossible for the plaintiffs to succeed. Plaintiffs had failed to say how, when or why the fire broke out. His lordship was concerned only with the much more limited inquiry whether the plaintiffs had proved their case, and he was of opinion that they had failed, and defendants were entitled to judgment with costs.

COPYRIGHT IN A BILL OF QUANTITIES.

In the Chancery Division recently Mr. Justice Maugham had before him the action of John Watson and Carter against Ashley Cooper on a motion for judgment.

Mr. J. P. Graham (for the plaintiffs) stated that the parties were quantity surveyors carrying on business at Hull, and that the action arose out of the copying by defendant of a bill of quantities prepared by plaintiffs. Defendant admitted infringement of plaintiff's copyright, and had given a perpetual undertaking in the terms of the writ and paid £250 in satisfaction of plaintiff's claim for damages.

Mr. Justice Maugham gave judgment for plaintiffs in the terms agreed with costs.

A POINT UNDER THE LONDON BUILDING ACT

A CASE heard in May, 1931, but only just reported in the Law Reports—London County Council *v.* Stilgoe and Another (1932 1 K.B. 303)—raises some points under the London Building Act, 1894, which are difficult to understand but which apply also to the new Act of 1930. The facts are simple. The premises known as Metro House in Charing Cross Road and the Astoria Theatre were connected by an overhead bridge passing across Sutton Street. The respondents to this appeal were Messrs. Stilgoe and Funnell, the owners in fee of Metro House, and Messrs. Rossdale and Rossdale were the owners in fee of the Theatre, and apparently these parties were each owners of a moiety of the bridge. Metro House was occupied under a sub-lease for 21 years by the Metropolitan Vickers Electrical Co., and the Berkeley Syndicate, Ltd., were sub-lessees of the Theatre for a period unstated in the report.

In December, 1928, the district surveyor had certified the bridge to be in a dangerous condition, and a notice was served upon the occupiers and owners of the structure requiring them to take down the bridge or otherwise to secure it. That notice was not complied with, and the Council obtained an order from a magistrate requiring the owners to take down the bridge, repair, or otherwise secure it. This order not being complied with, the Council themselves took down the bridge, and on July 12 a demand in writing was made for the expenses incurred in equal moieties from the respondents—Messrs. Stilgoe and Funnell and Messrs. Rossdale. These sums not having been paid, complaints were laid against the parties. The magistrates dismissed both complaints on the ground that by reason of section 173, sub-section (1) of the London Building Act, the owners in immediate possession of the premises or the occupiers ought in the first instance to have been summoned.

Sections 102 to 114 of the Act apply to dangerous structures (represented in the Act of 1930 by sections 128 to 139) and section 109 (now represented by section 135) in sub-section (1) provides that "all expenses incurred by the Council in relation to the obtaining of any order as to a dangerous structure and carrying the order into effect under this part of the Act (Part X.) shall be paid by the owner of the structure, but without prejudice to his right to recover the amount of the said expenses from any person liable to pay the expenses of repairs."

The definition of "owner" in section 5 of both Acts is as follows:—"The expression 'owner' shall apply to (in the 1930 Act the word is "includes") every person in possession or receipt either of the whole or of any part of the rents or profits of any land or tenement or in the occupation of any land or tenement otherwise than as a tenant from year to year or for any less term or as a tenant at will," but by section 173 (194 in the 1930 Act) it is provided: "Where it is by any provision of this Act declared that expenses are to be borne by, or may be recovered from, the owner of any premises (a) the owner immediately entitled in possession to the premises or the occupier thereof shall in the first instance pay the expenses, provided that an occupier shall not be liable to pay any sum exceeding in amount the rent due, or that will thereafter accrue due, from him in respect of the premises during his period of occupation." The only difference between section 173 and the present section is that after the word "premises" in the Act of 1894 it was provided "including under the term 'owner' the adjoining and building owners respectively," and then came the words "the following rules shall be observed with respect to the payment of those expenses."

It was argued on behalf of the Council, the appellants, that under these sections the remedy was against the "owner," though that expression as defined in section 5 might include an intermediate lessee or a lessee in possession, and that section 173 only gave an alternative remedy by providing that the occupier shall, in the first instance, pay to the extent of the rent due from him.

The Court, in giving judgment, recognised the difficulty which would ensue if the view taken by the magistrate and contended for by the respondents were accepted that the proceedings in the first instance must be taken against the person immediately in possession as that might involve taking proceedings in the first instance to recover the whole amount even from a weekly tenant, but they held themselves bound to hold that that was the effect of the section on account of the decision delivered in Mourilyan *v.* Labalmondiere (1861; 1 E. and E. 533) decided under the Metropolitan Building Act, 1855, on sections expressed in the same terms as sections 5 and 173, and approved in the case Hunt *v.* Harris (1865; 34 L.J. (C.P.) 249), and the Court indicated that if the Council wished to contest the correctness of those decisions they must do so in a higher Court.

Now we come to the difficulty we experience in considering this report. In Mourilyan *v.* Labalmondiere, as cited from the headnote by the Lord Chief Justice, the person held liable to pay the expenses as "owner" was a lessee in occupation under a lease for 21 years, and in Hunt *v.* Harris the person held the "owner" was also a leaseholder under a long term, and therefore under the definition contained in section 5 they could equally have been held "owners" as in "occupation, otherwise than as a tenant from year to year, or for any less term or as tenants at will," but apparently the effect of those decisions has been interpreted by the Courts, as Mr. Justice Avory put it, "that the provisions in section 173 affect the whole statute," and therefore import even the "occupier."

It is obvious that the section as interpreted must involve futile proceedings being brought in many cases against persons of no substance in the first instance, and it seems unfortunate that this fact was not recognised when the new Act of 1930 was framed. The Court of Appeal would not be bound by the above decisions, and the Lord Chief Justice appears to have indicated that an appeal might be brought to have the question decided, but we do not know whether it would not be possible to have the attention of the legislature called to what is an obvious hardship, if not absurdity, with a view to immediate remedy by legislation. Mr. Justice Avory is reported as having said: "The inconvenience resulting from this decision in the case of weekly tenants who are occupiers of premises which are more likely than others to be subject to proceedings under the provisions relating to dangerous structures, is so obvious that I was at first disposed to adopt the argument for the appellants that section 173 of the London Building Act, 1894, is intended only to regulate the obligations *inter se* of the various owners who come within the definition in section 5 and the occupiers," but then went on to say that in view of the fact that Mourilyan *v.* Labalmondiere had been decided upon a statute to the similar effect it was impossible to say that that decision was not binding upon that court.

A Reunion Dinner.

Arrangements for the annual dinner of the Polytechnic Association of Builders, Regent-street, have been altered to a slight degree, and the dinner, which is on Saturday, February 27, will be held at the Boulogne Restaurant, Gerrard-street, W.1. Full particulars and tickets may be had on application to Mr. R. W. Triggs, L.I.O.B., 20, Rusholme-road, Putney, S.W.15.

BOOK REVIEWS

Valuation of Real Property. A Guide to the Principles of Valuation of Land and Buildings, etc., for various purposes, with numerous examples. By CLARENCE A. WEBB, F.S.I., and NORMAN A. WEBB, P.A.S.I., M.R.San.I., B.Sc. Fifth Edition. London: Crosby Lockwood & Son. 21s. net.

It is hardly necessary to do more in these columns than to draw the attention of our readers to the fact that a fifth edition of this work, which has proved its own merit, has appeared. The first edition was published in 1910, and the fourth edition towards the end of 1925, and in the present edition Mr. Clarence A. Webb is joined by Mr. Norman A. Webb, and in their preface they state that as a new edition has been called for, they have taken the opportunity to revise a great deal of the matter and bring it up to date, as several Acts of Parliament affecting the subject have been passed since the last edition was issued. Among these Acts of Parliament are the Landlord and Tenant Act, 1927; the Housing Act, 1930; and the Rating and Valuation Act, 1925; the last-named had not come into operation at the date of the last edition, as it was only passed on December 23, 1925, and the chapter relating to this subject appears largely to have been re-written. In the index no mention is made of the Rating and Valuation (Apportionment) Act, 1928, but reference to it will be found in the text.

In the chapter on the Landlord and Tenant Act, 1927, in discussing what is meant by "goodwill," we notice that the authors cite the opinion of a county court judge that the definition in the latest edition of Webster's Dictionary is the most satisfactory, but, in the legal sense, a more authoritative definition, though not at variance with the dictionary meaning, is contained in the judgment of Lord Macnaghten in Inland Revenue Commissioners *v.* Muller and Co.'s Margarine, Ltd. (1901, A.C. 217): "It is the benefit and advantage of the good name, reputation, and connection of a business. It is the attractive force which brings in custom. It is the one thing which distinguishes an old-established business from a new business on its first start. The goodwill of a business must emanate from a particular centre or source. However widely extended or diffused its influence may be, goodwill is worth nothing unless it has power of attraction sufficient to bring customers home to the source from which it emanates. . . . For my part, I think if there is one attribute common to all cases of goodwill it is the attribute of locality."

The authors give several illustrations of what is the effect of section 4, sub-section (1), which makes compensation payable for goodwill attaching to the premises by a business carried on there for not less than five years, by reason of which "the premises could be let at a higher rent than they would have realised had no such goodwill attached thereto," and their reasoning appears supported by the case Hudd *v.* Mathews (1930, 2 K.B. 197; *The Builder*, July 25, 1930), where it was laid down (as stated in the text, though in other words) that the basis of compensation is not the loss suffered by the tenant but the benefit accruing to the landlord.

Exercises in Building Geometry. By WILFRED CHEW. (London: Sir Isaac Pitman & Sons, Ltd.) 1s. 6d. net.

The title-page sets out that this work is compiled for the use of apprentices and students attending day or evening courses in building trades subjects in technical colleges and branch technical schools, senior course first year. It consists of some 250 exercises and examination questions covering a very wide range of subjects, and aptly illustrates the tendency to stiffen up these courses. The chief aim is presumably set out in these words from the preface: "The numerous diagrams will add interest to the work and reduce to a minimum the teacher's task of making drawings on the blackboard."

ARCHITECTS AS QUASI-ARBITRATORS

By W. T. CRESWELL, Barrister-at-Law, Hon.A.R.I.B.A., A.S.I., etc.

Although most modern building contracts have an arbitration clause, providing for the settlement of disputes by an arbitrator, who may be called in when required, some contracts still provide that the architect himself shall act as arbitrator or *quasi*-arbitrator in disputes concerning the quality and quantity of work or materials, and in giving certificates, etc.

Experience, however, has taught that this system is no longer to the advantage of either employer or contractor. Review by an arbitrator, when necessary, is in every case more satisfactory.

Where the contract constitutes the architect arbitrator or *quasi*-arbitrator, it is always a question whether the employer can succeed in an action for negligence against him in circumstances where it is proved that the architect has not exercised his judgment impartially as between the two parties to the building contract. In general, he cannot so succeed if it can be shown that the architect was in the position of an arbitrator, though he may, of course, succeed if it can be shown the arbitrator is in the position of a mere agent. (See Chambers *v.* Goldthorpe (1901), 1 K.B. 624.)

But it is not easy in such a building contract to determine when the architect is acting as *quasi*-arbitrator or a mere agent. If the decision which is questioned is as to a matter concerning the proper *supervision* of the work he is a mere agent; but if he is authorised by the building contract to give such a decision impartially between the parties, then he is a *quasi*-arbitrator. There can, however, be no question as to decisions when he is appointed sole arbitrator or *quasi*-arbitrator under the building contract; and in such cases the question arises as to what remedies are open to the parties where it can be shown that the architect has not acted impartially.

Certain duties are incumbent on an architect in such circumstances. He is bound to preserve a judicial independence, that is, to act fairly and impartially between the parties. (See Roberts *v.* Hickman (1913), A.C. 229.) He is not at any time permitted to substitute the judgment of another for his own, though he may take legal or technical advice in order to confirm his own decisions. Such advice must be sought and obtained from a proper and impartial source. Further, he is bound to give both parties an opportunity of being heard; and it would appear that it is open to either of the parties to apply for an injunction to restrain him from giving any decision where it can be proved that he is unfit or incompetent to function.

In Page *v.* Llandaff and Dinas Powis R.D.C. (1901, 2 H.B.C. 316), Channell, J., said: "They may argue their case before him, and it would be perfectly right for the engineer to give opportunities to either of them by saying, 'Now my view is so and so; what have you got to say to that?' provided he does it equally to the other person. There would be no objection whatever to his doing that, but he must, so far as regards the portions of his duty on which he is deciding between the parties deal equally with both parties. If he gives opportunities to one, he must give the same opportunities to the other; and although he may listen to arguments which may be addressed to him, he is not to allow his judgment to be influenced by directions given him of the character which would be properly given to him if he were doing some other part of his work, namely, the part in which he is surveyor only, and directing the mode in which the work is to be done."

In short, it is the duty of a *quasi*-arbitrator to act impartially so far as his *natural* bias in favour of his employer will permit. He must apply his practical knowledge of the facts and decide accordingly.

He cannot enter into any agreement with the employer, unknown to the contractor, to act partially and to the disinterest of the contractor in any manner or degree. In Roberts *v.* Hickman (1913, A.C. 229) the employer interfered with the architect, but the House of Lords expressly decided that the architect had acted under a mistaken view as to his duties and authority. In Jackson *v.* Barry Railway Co. (1893, 1 Ch. 238), Bowen, L.J., said, as to the position of parties to a building contract, when the architect is *quasi*-arbitrator "to an adjudication in such a peculiar reference, the engineer cannot be expected, nor was it intended, that he should come with a mind free from the human weakness of a preconceived opinion. The perfectly open judgment, the absence of all previously formed or pronounced views which in an ordinary arbitrator are natural and to be looked for, neither party to the contract professed to exact from the arbitrator of their choice. The question in the present appeal is whether the engineer has done anything to unfit himself to act, or render himself incapable of acting, not as an arbitrator without previously formed or even strong views, but as an honest judge of this very special and exceptional kind."

It is never wise for an architect under a building contract to be placed in the position in which he may be told that no man can be judge in his own cause.

A stipulation that the arbitrator is to act as exclusive judge in respect to a certificate does not make that certificate an award in the sense of the award of an arbitrator.

THE WEEK IN PARLIAMENT

The Town and Country Planning Bill.

This Bill came before Standing Committee "A" of the House on Tuesday, February 9.

Sir J. Walker-Smith moved an amendment to Clause 1 (Scope of Planning Schemes) to define a scheme under the Act as one "enabling a local authority or a county council or a joint committee constituted for the purposes of this Act to prohibit or restrict the use of land for building purposes." He said that there was no word in the preamble to suggest that this was really a Bill to give powers of a restrictive and prohibitive nature in respect of the built-up areas of the country. Yet that was the real and primary intention.

Sir E. Hilton Young, the Minister of Health, said that the amendment would not improve the Bill. The definition of "local authority" was too vague, and the introduction of the reference to the county council would lead inevitably to confusion and conflict of jurisdiction. The proposal to limit activities to building purposes would seriously limit the useful powers which were indeed already possessed by local authorities, and which, on the whole, they desired moderately to extend rather than further to limit.

The amendment was withdrawn.

The Marquis of Hartington moved an amendment to allow town planning schemes to be embarked on and carried out with respect to four classes of land—land which was in course of development or appeared likely to be used for development, land which was already developed and had some special architectural, historic or artistic feature, land which was purely agricultural and was likely to be developed only when it contained some special feature which was worthy of preservation, and land which was fully developed but where new streets or open spaces were required. The amendment, he said, while giving the fullest scope for town-planning schemes whenever any definite form of planning was in contemplation, would eliminate the wholesale zoning of land without any definite object in view. Unless there was some specific object in view, zoning was not wholly desirable.

Sir E. Hilton Young said that the amendment, if successful, would amount to a redrafting of the Bill. It would deprive the Bill of any force of any sort or kind. One of the main purposes of the Bill was to make more common-sense of town and country planning as a whole, by building, on the start that had been made with town-planning powers, a more sensible and workable structure. In order to make a good thing of town planning they must extend those powers already possessed by the town-planning authorities to land already built on. That was the central purpose of one side of the Bill, and the second principal object was to give the countryside the same protection as the towns had had in the past. The amendment would destroy those two purposes.

If the amendment were withdrawn, he would deal with the matters now raised when they reached clause 6, which dealt with the actual preparation or adoption of schemes. He would be prepared to move an amendment to that clause.

The Marquis of Hartington withdrew his amendment and the clause was agreed to.

Waterloo Bridge.

Sir W. Davison asked the Minister of Transport whether, before agreeing to make a grant out of the Road Fund of 60 per cent. of the expenditure involved in pulling down Waterloo Bridge and erecting a new bridge to carry six lines of traffic in its place, he took into consideration that this work would take seven years to complete, and that removing the old bridge would cost some £275,000; and whether he would be prepared to make a similar grant towards widening the existing bridge to take four lines of traffic, so as to save expenditure, reduce the time for the completion of the work, and, in the opinion of the Royal Commission, approximately double the present capacity.

Mr. Pybus said he did not know on what authority his hon. friend stated that it would take seven years to complete a new bridge. In a report which had appeared that morning, the Improvements Committee of the London County Council stated that the time required was about five years. In any case, however, the responsibility for formulating a satisfactory scheme rested with the London County Council. Pending their decision he had nothing to add to his statement.

Sir W. Davison asked if the Minister was aware that Waterloo Bridge was one of the greatest architectural masterpieces we possessed, and, in view of the saving of the time and money of reconditioning the bridge for four lines of traffic rather than the larger scheme proposed, did he not think that the Treasury, in the present financial stringency, might offer to the L.C.C. to pay 60 per cent. of the smaller scheme, when they had already offered to pay 60 per cent. of the larger.

Mr. Pybus said that the hon. Member was asking him, in the event of the L.C.C. refusing to adopt the resolution of the Improvements Committee, what he was going to do. That was a purely hypothetical question.

Sir W. Davison asked if the Minister realised that it was being said that the Government offer of 60 per cent. only applied to a bridge for six lines of traffic, and therefore those who thought the reconditioning of the bridge for four lines of traffic would be better would be out of court for the Government grant? Did he understand it would be available if the L.C.C. approached the Government?

Mr. Pybus said that was a purely hypothetical question.

Captain Crookshank asked, when the Minister said that it rested with the L.C.C. to produce a satisfactory scheme, who was going to decide whether the scheme was satisfactory? Was it the Minister?

Mr. Pybus replied that presumably the L.C.C., having appointed a famous architect and a famous engineer, might be entrusted at any rate to carry out the technical side.

Major Nathan asked if the Government had entered into any commitment towards the L.C.C. in the event of the scheme mentioned for six lines being adopted.

Mr. Pybus said that in the event of the L.C.C. deciding that a six-line bridge was necessary, involving the removal of the present Waterloo Bridge, then the Government would be prepared to give 60 per cent.

ARCHITECTS' & BUILDERS' INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.

May we appeal to our correspondents to submit their queries on paper of a size easily filed, and written as legibly as possible, or, better still, in typewriting?

We do not undertake to reply to inquiries concerning proprietary materials.—ED.

QUESTIONS.

Septic Tank.

SIR,—Can you or any of your readers inform me what is the difference between a septic tank and a cesspool, and how big either should be in terms per head of household population. ESTATES.

Staining Asbestos Cement Slates.

SIR,—I have a bungalow in the country which is roofed with ordinary pink asbestos cement diagonal slates, and in order to tone them down to a more pleasing colour I applied a coat of creosote to the roof last summer. This treatment was quite effective at first, but, after what I presume to be the effect of the winter frosts, the roof has gone back to its original pink colour. As it is hardly practicable to re-creosote the roof continually, I should be glad to know whether any reader can suggest a more effective treatment. The result desired is a permanent rich dark brown.
J. M. M.

Oak Door and Gates.

SIR,—What is the cheapest and most satisfactory way of restoring an oak front door and gates to their original shade of new oak, to last? W. A.

ANSWERS.

Cavity Work and Lintols.

[ANSWER TO "OCCUPIER," JANUARY 22.]

SIR,—The defect may arise from a number of causes, such as a puncture through the lead dampcourse; careless bricklaying with the tray full up with mortar droppings to above the level of the lintol; or faulty construction, such as the lead being turned up against the lintol instead of up and over the top of the inside lintol. Possibly the lead is carried out over the top of the brick arch instead of immediately over the window or door frame. This is fatal in an exposed situation, since the brick arch becomes full of water and in contact with the inside plaster, especially in the case of metal frames set direct in the brickwork.
CONSTRUCTION.

Arbitration.

[ANSWER TO "PRACTITIONER," JANUARY 8.]

SIR,—If the contract in question is the R.I.B.A. Form, the Arbitration Act, 1889 will apply. "Practitioner" is not bound to accept the appointment as arbitrator unless he so wishes. The award is final and enforceable as a judgment of the court and "Practitioner" is not liable for any misconduct on his part, even if his award is set aside.
"ARBS."

White Cement.

[ANSWER TO "PRACTICE," FEBRUARY 5.]

SIR,—White cement has all the properties of ordinary Portland, and is therefore quite suitable for grano paving. The effect is a creamy grey, quite pleasant in appearance if very carefully mixed and incorporated. The cost should be roughly 33⅓ per cent. above ordinary granolithic rates.
INSTRUCTIONS.

Smoking Chimney.

[ANSWERS TO C. ROSE, FEBRUARY 5.]

[Letters from Mr. W. Marriott, Mr. G. H. Herring and Mr. H. L. White have been forwarded to Mr. Rose.—ED.]

Porosity of Bricks.

[ANSWER TO "SUPERVISION," JANUARY 15.]

SIR,—Porosity, as applied to bricks, means "full of pores," and it is because of this that clay products have been and are widely used, having by such porosity greater insulating properties than a solid structure. Porosity, however, is often taken to mean "permeable"—the definition of which is "that which may be passed through" or "penetrate through pores," whereas porosity is the best known method of securing impermeability. Bricks, tiles, etc., rely on their porosity to insulate heat and resist weather, for a brick does not resist the passage of moisture by being impenetrable, but by its ability to evaporate moisture from its pores quicker than that moisture can penetrate. I think the writer of this query means by porosity—"permeable"—if so, it has been established that a stock brick is not likely to be less permeable than a machine-made brick, both, of course, properly burnt. The former cannot be forced together to the same extent as a brick moulded under great pressure; it therefore contains more voids and pits, which do not assist in resisting the passage of moisture.
BRIX.

Pantiles.

[ANSWERS TO "W.," FEBRUARY 12.]

SIR,—Pantiled roofs are liable to give trouble in two ways:—

(1) Through not being absolutely weatherproof, *i.e.*, letting in driving rain, snow and wind.
(2) Through the tiles being readily shifted and liable to be blown off.

Pantiles should be hung on extra stout battens, 1½ in. by 1 in. being a satisfactory size. The tiles must be laid to the correct gauge, and no attempt should be made to stretch or contract the space covered by giving more or less than the proper side lap.

The eaves should have a tilting fillet about 1 in. to 1½ in. thicker than the battens used, but not more. Ridges are best finished with half-round or plain ridge tiles, set and pointed in cement and sand. Pantiles are ill-adapted for use on any but straight roofs, as cut tiles are likely to leak and to slip out. Hips can be satisfactorily finished with ridge tiles set in cement and sand with irons at the eaves.

Valleys are always difficult; they are best lined with lead dressed over a batten nailed down parallel with the valley rafter and carried well under the tiles, which must be bedded in cement and sand. To do this the valley boards will require to be let down to finish not more than ½ in. above the rafters, as otherwise the tiles will be tilted sideways and let the water in.

Verges may be made sound and good by bedding the tiles in cement and sand, and an undercloak of plain tiles is a great improvement. It is advisable to drill and nail at least every other tile down the verges, and in exposed positions about one in every six courses of tiles may be drilled and nailed with advantage over the whole roof. The most satisfactory flashing against parapet walls and chimneys is probably a large cement and sand fillet. Pantiles may be pointed outside and/or torched inside, but care must be taken not to point the tail of the tiles, as this is liable to set up capillary attraction and cause the roof to leak.

A first-class job may be made by nailing about three plasterer's laths vertically on the battens under the side joints of the tiles and bedding the tiles down in hair mortar. Pantiled roofs may be successfully built with any pitch not less than 40 deg. or more than about 52½ deg.

If pantiles are to be used on important buildings the roofs should be boarded, covered with felt and vertically battened, and care must be taken that any water penetrating under the tiles will drain away into the eaves gutters, but such a roof is both heavy and expensive. D. A. FORSTER.

SIR,—I suggest that hand-made sand-faced pantiles should be used—with an extra deep roll—and a specification somewhat on the following lines:—

Hard, well-burnt, hand-made sand-faced pantiles to approval, laid to the usual gauge with the vertical joints bedded (no external pointing) on and including 2 in. by ¾ in. battens.

Verges to be laid on a course of slate as undercloak and to be bedded and pointed in cement.

The eaves to be bedded on a course of plain tiles and the ends of the rolls filled in with pieces of plain tile in cement and pointing.

The ridges and hips to be half-round, bedded and pointed in cement, and the voids filled in on both sides with pieces of plain tile.

I would recommend that the roof be boarded, covered with a waterproof felt, and counter-battened as well as battened as described before. The flattest pitch I would suggest ought to be not less than about 35 deg.; the steepest ought not to exceed 55 or 60 deg. at the eaves unless special precautions are taken, and for any pitch over about 40 deg. I would suggest that the pantiles be nailed. A. C. J. G.

SIR,—Ridges and hips should be 9 in. half round to match, and it is desirable to fill up the hollows under the ridges and hips with reeds, and thoroughly bed and point in cement. Valleys must be lead valleys, with good tilt fillets down each side. It is desirable to felt the roof with a good bituminous sheeting and to nail the felt over the top of the counter laths. By this means any water penetrating will run down the hollows, which are thus unpunctured with nail holes.
PRACTICE.

Party Wall Question.

[ANSWERS TO "QUERCUS," FEBRUARY 12.]

SIR,—Apart from any other question raised, the raising of the party fence wall, as described, may be a breach of a restrictive covenant not to build it above a certain height.

This being an interest in land, any agreement with the adjoining owner must be in writing. The adjoining owner could not now be held to the verbal agreement, and he could compel the removal of the additional 3 ft. referred to unless an easement has been acquired to the raised portion by prescription under the Prescription Act.

It follows that "Quercus" cannot proceed as in (2). Rather, he should try to negotiate with the adjoining owner the best terms he can and to retain the wall.

The fact that neither the vendor's solicitors nor the purchaser's solicitors had any notice of the verbal agreement does not assist "Quercus" at all. LEX.

SIR,—Assuming that satisfactory evidence is available that verbal permission was given for the party wall to be raised 3 ft., "Quercus" cannot be compelled to remove it. The second part of the question does not arise in any case. On the contrary, should the adjoining owner make use of the raised wall at any time for a shed or other purpose on his side, "Quercus" can demand for the user of it half the cost of the wall his vendor paid for when it was raised. PARTY.

SIR,—"Quercus" does not say where the property is situated. If it is in the area covered by the London Building Act, 1930, I suggest he refers to that Act, Part IX., where he will find the rights of building owner and adjoining owner very definitely set out.

In any case, I am of opinion that irrespective of when the addition was made, if the wall is definitely a party wall, then either owner would have the right to raise on it at his own expense. Therefore the adjoining owner cannot compel "Quercus" to remove the additional 3 feet of wall, and this being so, question 2 does not arise.

The only point that would give the adjoining owner any right of action is whether the 3 feet of wall affects the passage of light or air to his premises, and even if this is so it is possible that "Quercus" may have acquired a right by lapse of time.
SURVEYOR.

THE BUILDING TRADE

THE LESSONS OF EXPERIENCE.—VIII

By J. R. TAYLOR.

DAMP CURES.

Generally speaking, the architect is more engaged on the design and construction of buildings than on the maintenance and repair of those already in existence, and it is of greater importance to him to study the means of preventing the admission of damp than methods of cure; but when it is remembered that the number of buildings already in existence is probably greater than those which will be built within the next forty years, it is apparent that a case could easily be made out for intensive research into the curative aspects of the problem. It is not for a moment suggested that the Building Research Station is neglecting this question, as a careful perusal of the Board's excellent Report for 1930 will show the contrary to be the case; but, so far, the results obtained seem to be mainly negative. To put it another way, while we have every reason to be grateful for the Board's great assistance in making recommendations that, if carefully studied and followed, will go far to the avoidance of errors, we are given but cold comfort when we seek remedies for existing defects.

In passing, it may be noted that the lay Press appears to have found in this Report* matter of news value, and therefore it may circulate to some extent amongst property owners, their agents, and other interested persons. Consequently, it behoves architects and builders to give it careful study lest in regard to certain matters on which the Station has thrown new light they find themselves embarrassed, should their proposals and recommendations be, or appear to be, in conflict with the Report.

With regard to the penetration of damp into existing buildings, experience goes to show that under average circumstances much of it may be classed as accidental and due to temporary causes. It would not be reasonable to condemn certain methods of construction, nor even certain methods of cure, which are resorted to with some success in sheltered towns, merely because they would not answer in, say, the Welsh hills. Many manufactured goods and methods of construction found to be quite serviceable under average circumstances in the south are unsatisfactory further north, even though the circumstances are still average: that is to say, average for the north. And the word "accident" is also used in a wider sense than that of matters arising out of accidental causes such as, say, a breakage in a rain-water pipe. If a solidly-built wall answers satisfactorily until the joints need repointing, and can again be made to answer by repointing, then its failure is temporary and accidental. But if a wall, by reason of being constructed of very porous bricks, has at no time put up a satisfactory resistance to the penetration of damp, then the failure, being inherent, is not accidental in the sense of the word as here used. Even here, however, it is necessary to make the reservation that experience goes to show that a wall which is unsatisfactory by reason of the porosity of the bricks sometimes responds better to curative treatments that are not drastic than walls constructed of bricks of greater density.

Non-existent or Defective Dampcourse.

Though the builder is in the majority of cases called upon to cure damp buildings to which moisture is admitted through accidental causes, it is not always so. There are still a good many buildings which, when first built, were unprovided with a dampproof course. Even now, where a building is not intended for human occupation, it is sometimes not thought to be worth while to put in a dampcourse. This is a bad mistake, for even boundary walls should be provided with dampproof courses, and in the long run it would be true economy to provide nearly all external walls with an additional dampcourse below copings or other finishings.

Observation generally goes to show that the domestic buildings which continue to be occupied, though without dampcourses, are, with the exception of speculatively built cottages, otherwise very soundly constructed. In such cases, the proper thing to do, where the floors are at a sufficient height above ground level and money can be found for the work, is to cut out for and insert a dampcourse. It is hardly necessary to describe the method here, but it may be stated that the use of rapid-hardening cement does much to speed up the work. To effect a complete cure, it is usually necessary to extend the treatment to the inner dividing walls, and, as this entails the taking up of floors, the work becomes so expensive that it cannot always be afforded. Fortunately, perhaps, we do not always insist on a house being made as dry as is considered to be necessary in the case, say, of a picture gallery; and if, therefore, we can find other remedies that will so reduce the amount of moisture finding entry as to make it feasible that the residue will be dissipated by means of ordinary heating arrangements, we may consider this result fairly satisfactory.

In regard to such a case, it is useful to have some account of the history of the damp in the house. Take, as an example, a fairly large house, standing in its own grounds, and lacking a dampproof course. For such a house the architects of former times would usually provide subsoil drains. If the damp complained of is of recent origin, or has lately much increased in volume, it is not unreasonable, in the absence of some other obviously probable cause, to suspect that the subsoil drains are not functioning so well as when first put in. They may have become choked up, have been disturbed, or their outfall may have been interfered with. Defects may have arisen in regard to drains carrying off rain-water, especially if roots of trees and bushes can reach them. At one time most drains were laid with clay joints, and even when cement came into use for soil drains, clay continued to be used for those carrying rain-water. In such cases trees and shrub roots find easy entrance to the interior of the pipe.

To a considerable extent the nature of the remedies to be applied will depend on the composition of the subsoil. It is obvious that where there is no dampproof course, and it is impossible to insert one, we must as far as possible reduce the amount of water reaching the foundation work. Unless the house be situated on a knoll, the ground on nearly a level site must fall in at least one direction. On a clay site in wet weather a good deal of water travels just below surface soil and on top of the clay. If this can be intercepted and diverted, the house will naturally be drier. On sites sloping rather quickly, a fairly deep, dry drain, cut as near to the house as practicable, so as to intercept the surface water coming from the higher ground, may give satisfactory results. Such a drain should be filled right up to the top with large, coarse rubble or other suitable material, and, where circumstances permit, it is good practice to finish off with a course or two of rustic walling, so that it will not be later turfed over. Better results may be obtained by intercepting and diverting the oncoming water than by driving in adit drains under the existing building, in the hope of withdrawing it. It is, however, necessary to be cautious in draining a clay subsoil after the building is in being. If the clay is drained to such a depth as to cause any considerable shrinkage, failure to support may follow. When all these points have been considered, it may be found that the problem is such that other remedies have to be sought, but always it will help if the ground under and immediately around the building can be dried out down to the bottom of foundations.

The foundations ordinarily have another source of supply in the water that flows down the face of external walls. In light showers this is negligible, but in heavy, continuous rain it will be very considerable. The presence of garden borders close up to house walls greatly facilitates the access of this water to foundations. Short of surrounding the house with either a drained dry area, or a properly laid and drained impervious pavement of some width, it is not easy to specify a cure, because so much will depend on the special circumstances of each case. To trench round the house and fill with dry rubble does not, as a rule, provide more than a temporary remedy, even in gravel, and is usually worse than useless in clay. To dig down to the bottom of foundations and to a width of a foot or more, and fill with fine tar macadam thoroughly well rammed, has been known to give good results. Where this is done all rain-water gulleys should be taken up and reset, and it is better to replace any of the ordinary type, on to which a rain-water pipe shoe discharges, with those having back arm inlets. If the walls are of brick, a course above ground level may be chased out to a depth of a couple of inches (on bed), and the tar macadam well tucked in and sloped sharply down from the wall face.

The Value of Pointing.

In four out of five cases, where the builder is called in to remedy damp walls, he finds that what is required is local or general pointing, and for about half a century it has been found that in the great majority of cases this is best when done in cement mortar or with lime mortar gauged in cement. In some cases this treatment has not been satisfactory, and injury to the brick faces may follow. As a result, due weight must be given to an authoritative ruling that walls built in cement mortar should be pointed in cement, and those in lime mortar with the like material, unless the experience of the builder in regard to the behaviour of the bricks warrants him using cement instead of lime. Where the pointing required is local and is made necessary by reason of some other neglected repair, the builder is very seldom called in until a patch of damp has made its appearance inside the house. This is particularly the case in regard to choked, cracked or broken rain-water pipes and defective rain-water gutters, which more often than not are left unrepaired until the mortar is washed out of the joints of the brickwork to a considerable depth, and water finds its way or is driven through in some volume. I do not want to raise again the vexed question of the merits and demerits of the cavity wall, but in respect to the point here raised, there is here an added risk, and it is very important that this and several other matters that I will refer to in the next article should not be overlooked when this form of construction is adopted.

(To be continued.)

*Report of the Building Research Board for 1930. Obtainable at H.M. Stationery Office, Kingsway, W.C.2, and elsewhere. Price 2s. 6d.

THE BUILDING RESEARCH STATION

QUESTIONS AND ANSWERS.*

THE following abstracts of inquiries represent a number of those recently submitted to the Building Research Station. The information given in the replies quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may in the course of time indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each inquiry, and are not necessarily suitable for general application to all similar problems.

Grading of Concrete Aggregates.

An engineer desired information on the most suitable grading for concrete aggregates and proposed to use the information in future specification work.

Reply.—Since there is an infinite number of combinations of particle sizes which can produce equally good concrete, it is felt that it would be inadvisable to lay down definite specification requirements, and the following notes are merely intended to indicate the more important factors to be considered in the grading of concrete aggregates.

It is known, for instance, that the presence of very fine material improves the workability of concrete, but an excess of fine material—that is, particles passing a No. 52 British Standard sieve—reduces the strength of concrete owing to the increased water content required. For a 1 : 2 : 4 mix the proportion of fine material present should generally lie between 5 and 25 per cent. of the sand (aggregate passing through a $\frac{3}{16}$ in.-mesh sieve). With richer mixes the quantity of fine material can with advantage be less, and with leaner mixes more.

Intermediate sizes are also important, since an excess may result in harshness and lack of workability, or in a badly finished surface. When the maximum size of coarse aggregate is limited to $\frac{3}{4}$ in., trouble may arise from the existence of an excess of particles between the No. 7 B.S. sieve (aperture size .0949 in.) and $\frac{1}{8}$ in. B.S. sieve (aperture size $\frac{3}{16}$ in.). This quantity should not normally exceed about 15 per cent. of the material passing through the $\frac{3}{16}$ in.-mesh sieve. With aggregates of larger maximum size the intermediate sizes may be of larger size, even up to $\frac{1}{2}$ in.

Two aggregates similarly graded, one consisting of particles of a rounded nature and the other of particles of angular form or of crushed material, will exhibit markedly different degrees of workability when mixed with equal volumes of water and cement, but, when sufficiently compacted, will have identical strengths. The rounded aggregate will require less water to bring it to a condition suitable for placing in the moulds and will produce a concrete which is not so harsh as the one composed of angular pieces; it is therefore to be preferred.

Lining of Tanks with Lead to Hold Sulphuric Acid.

An architect inquired whether any special lead should be specified for lining tanks to hold sulphuric acid (vitriol), and whether any particular precautions are required in making the joints.

Reply.—The lining of sulphuric acid tanks for all concentrations of acid is usually carried out in a special grade of lead called "chemical lead," which may be purchased to British Standard Specification No. 334. The joints are made by lead burning and should be executed by craftsmen who specialise in this type of work.

Damp Wall Caused by Hygroscopic Salts.

Contractors sought the advice of the Building Research Station with regard to dampness in a party wall. The wall paper on a patch of about 12 sq. in. situated some 2 ft. from an outer wall had the appearance of being thoroughly saturated. Other portions of the paper were similarly affected, although, perhaps, not to the same extent. Examination of the plaster and underlying brickwork showed that the dampness was confined to the surface of the wall. Samples of the brick and plaster cut from the damp portions of the wall were submitted.

Reply.—A qualitative examination of the samples of brick and plaster showed that chlorides and nitrates were present in considerable quantities; these salts are hygroscopic, and often give rise to the conditions obtaining in this case.

In an instance previously reported to the Station of dampness in a wall caused by the use of sand from the seashore in plastering, it was suggested that a wash of sodium phosphate might be applied, as this would tend to form non-hygroscopic compounds. One pound of di-sodium hydrogen phosphate should be dissolved in two gallons of water, and the affected area sponged over with the solution. If signs of dampness reappear after the wall has dried the process should be repeated. It is desirable to use as little excess as possible of the sodium phosphate over and above that required to precipitate the other salts present in the wall, and this can be ensured by sponging lightly and not repeating the treatment unless the dampness reappears. Experiments with this treatment have not been carried out at the Station, but in the case mentioned above, the correspondents found the method to be succeseful.

Yellowish-Brown Efflorescence on Brickwork.

A borough engineer reported a disfiguring yellowish-brown type of efflorescence which had developed over portions of the brick-faced walls in a number of houses, and wished to know the cause of the trouble, any remedial measures which might be attempted, and any preventive measures which could be taken on future occasions. The efflorescence had made its appearance more particularly on parts of the walls where operations had been suspended for a period because of heavy rains, and the brickwork had become thoroughly saturated.

Reply.—The formation of iron oxide efflorescences on brickwork has been the subject of a recent investigation at this Station and, at present, although it is possible to offer an explanation of the occurrence, no remedy can be suggested. Briefly, the facts are as follows. Bricks made from clays rich in iron and fired to a high temperature under reducing conditions may contain ferrous sulphate. This salt is soluble, and thus, when the brickwork becomes saturated during heavy rain, it is capable of forming an efflorescence. Ferrous sulphate, however, differs from the more common "white efflorescences" (consisting usually of the sulphates of sodium, magnesium and calcium) in that it is not stable. The latter generally redissolve and are washed away, but the ferrous sulphate is decomposed by the combined action of moisture and oxygen to form the insoluble ferric oxide which constitutes the stain. Consequently, the disfigurement of the brickwork is permanent. It is impossible to recommend any chemical treatment for its removal because any reagent strong enough to dissolve ferric oxide at all readily would also attack the brickwork, particularly the mortar joints.

The position as regards the prevention of this trouble in the future is also unsatisfactory from the standpoint of both the maker and the user. A very small percentage of ferrous sulphate in the bricks is sufficient to cause extensive staining. Hence the elimination of this compound cannot be expected with any certainty under the conditions which obtain in the firing of the average brick kiln. With bricks that are known to be subject to this defect the most that can be done in the way of preventive measures is to take more precautions than usual to avoid excessive absorption of moisture by the bricks when they are in the stack and whilst the walls are in course of erection. There is reason to believe that the conventional method of sheltering the top courses from rain by laying boards upon them does not give adequate protection against the entry of water. Some method that will prevent water lying on the upper surface of the wall must be adopted if the staining is considered sufficiently objectionable to warrant the extra cost involved.

Painting on Plaster.

A building contractor wished to know whether there was any type or brand of hard wall plaster or Keene's cement procurable on which it was possible to decorate immediately without risk of failure.

Reply:—The failures which often occur when paint is applied immediately over Keene's cement and plasters generally are usually due to causes which may be physical or chemical or both. "Physical" failures, which include such effects as peeling, blistering and flaking, are likely to occur when the material is painted before it is sufficiently dry, particularly if it contains soluble salts, which may cause damage to the paint by efflorescence. "Chemical" failures, in which the paint film is attacked chemically by substances present in the background, are liable to occur when both lime and salts of sodium or potassium are present together in the painted material. This type of failure is characterised by softening and stickiness of the paint, accompanied in some cases by bleaching and discolouration.

Keene's cement plasters often contain small amounts of the alkali salts mentioned, since potassium sulphate or potash alum is frequently added as an accelerator. While such plasters, if used neat, are usually quite harmless to paint in respect of chemical action, they are likely to prove injurious if any lime at all is mixed with them. The addition of 5 per cent. of lime is often sufficient to cause considerable chemical destruction of the paint. It will be necessary, therefore, if a Keene's cement is used, to ensure that no lime is added. Even so, there will remain the normal risks of physical failure arising out of the presence of moisture. In such cases it is always advantageous to carry out the preliminary decoration, if possible, in some porous medium such as distemper, which will not interfere with the evaporation of moisture from the walls.

Investigations carried out at the Station indicate that the glue-retarded hemi-hydrate class of plasters may contain a smaller proportion of alkali salts than plasters of the Keene's type, and, consequently, such plasters are less likely to lead to chemical destruction of paint if used with an addition of lime. Since, however, the addition of lime to Keene's cement is not a common practice, the lower alkali content of the hemi-hydrate may not be significant.

Cast-Iron Plate Highway Foundation.

An interesting experiment in modern road-making methods has been carried through on the main road leading into the Northfield Colliery at Shotts. To give a road which is immune from surface deformation, the foundation is formed by a layer of cast-iron plates instead of the usual layer of ballast, pieces of which occasionally disintegrate, leading to the break-up of the road surface. The plates distribute the weight of traffic over a very wide area, and so lessen risk of subsidence of the foundation. The plates are laid ribbed side uppermost with their edges interlocking immediately below the surface of the roadway and bedded upon the surface of the foundation and against the kerb of the roadway. The surfacing material may be tar-macadam, or any other material which is plastic when laid. Approximately 1,000 tons of iron per mile would be used at a cost similar to a road made in the usual method using an ordinary concrete foundation. The jointing system allows the plates to take the necessary curvature for camber and gradients.

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BUILDERS' FOREMEN & CLERKS OF WORKS

The annual dinner of the Provident Institution of Builders' Foremen and Clerks of Works was held on Saturday, February 13, at the Hotel Victoria, Northumberland-avenue, W.C. The President, Mr. F. W. Stratton, occupied the chair.

The loyal toasts having been duly honoured, the President proposed the toast of "The Provident Institution of Builders' Foremen and Clerks of Works." He said the Institution had been founded in 1842 for the purpose of granting pensions to aged and infirm members and to the widows and children of deceased members, and for making grants for temporary relief. The total amount paid in pensions up till now was £34,902. The Institution could not have been carried on with such success but for the generosity of architects, surveyors and master builders. Present conditions were difficult, for trade was depressed and the calls for charitable purposes were likely to be greater than previously. He thanked those who had so kindly responded to his appeal this year.

The Hon. Treasurer (Mr. F. J. Dexter) said that never before had the financial situation of the Institution been so acute or the need for financial assistance so pressing. Many of their members would be compelled by sheer necessity to ask to be placed on the pension list. Others had died before their time, leaving widows and children to be provided for. He thanked all those who had responded to the President's appeal. He thanked the London Master Builders' Association and the Institute of Builders for the generous subscription they had continued during so many years. He would like to see the R.I.B.A. on the list of subscribers, and thanked them for assistance given in other ways.

Mr. Percy C. Culver, F.I.O.B., proposed the toast of "The Architects and Surveyors." Rabid economy, he said, had broken loose on the building industry, and many architects and surveyors had been badly hit. He was glad to believe that architects and surveyors were attending the dinner to show that an institution that had carried on a beneficial work for ninety years was still worthy of being maintained in full splendour. Their attendance gave the managing committee, secretary and treasurer great encouragement. The present period was one that called for courage and sacrifice on the part of the supporters of benevolent institutions, but the work of this Institution was worth a sacrifice to maintain.

Responding to this toast, Mr. Herbert Welch, F.R.I.B.A., said the time had been when anything like fraternising between general foremen and clerks of works would have been looked upon by architects with suspicion, but it was now realised that it was possible for the interests of the building owner and the builder to be dealt with by the representatives appointed by them in a friendly and honourable manner. This was a step in the right direction. He owed a debt of gratitude to clerks of works and general foremen; he realised how much he had learned from them. The industry to-day needed all the help its members could give it. Every section—be they builders, architects, surveyors, general foremen, clerks of works, subcontractors, or what not—should get together to see what they could do to help forward and improve the general organization within the industry. Conditions had changed greatly within the last ten or fifteen years, and those who lived by the industry must consider how they could organise it from within so as to make it capable of meeting competition, and lift it to the same high level of production as had been attained by other industries in the country. The time had come when the training of those coming into building must be more seriously considered: the old system of apprenticeship was inadequate to meet present conditions. He would like to see the boys getting a wider and more scientific education than had been given those of the past: he would like to see them getting at least one day a week in a school of building. Clerks of works and general foremen would need a better education if they were to understand the kind of drawings that would be presented to them by the average architect in the future. He did not look askance at the new modern movement; he encouraged it. Architects could no longer go on expressing in terms of Greek and Roman what they had to build in steel and concrete; that was not good art. Some of the designs we saw were freakish, there was no doubt. There was always freakishness about the idealist; there was always freakishness in every movement. But at bottom this movement was right, because it was an endeavour to leave in the design as it was finally completed a direct relation with the material of which it was built. It was the duty of architects never to lose sight of the good things that had been done in the past, and to be guided in the best way by the best work of their fellow-architects; but they must not be slaves to tradition. They could not go on indefinitely covering with a skin of stone something that they knew to be entirely different. If they wished to be truthful they must evolve something fresh, and this could only be done by the right and proper use of the materials at their disposal.

Mr. A. Strachan Bennion, F.S.I., also responded to this toast.

The health of the President was proposed by Major Rice, F.I.O.B., and honoured with much enthusiasm.

In responding to the toast, the President said the total amount received was over £400.

The President proposed the health of the hon. secretary, Mr. Searchfield, he said, had been connected with the Institution forty-three years. The speaker announced that another three guineas had been added to the fund.

This toast also was received with enthusiasm and briefly acknowledged.

SMOKY CHIMNEYS

Sir,—I have read with great interest Mr. Taylor's account of smoky chimneys. Many of his ideas agree with conclusions I myself have come to. I have studied physics rather deeply as a side-line, although a builder by trade, and I have applied the various dynamical and statical laws to smoky chimneys.

In regard to fresh air inlets, Mr. Taylor is quite right so far as he goes, but unless care is taken in selecting the position of these inlets they may actually be a disadvantage. If on the lee side of a building or in a narrow passage between two blocks of houses they will have a great tendency to act as outlets and not inlets. I have seen such a case when the lighted paper was blown out of the fire grate.

In airs produced by a taller pot, the height of the pot is probably not the important factor at all, as an extra two feet will only increase the velocity of the air about 3 per cent., which will hardly be appreciable in a flue 30 ft. high. These tall pots often taper to an opening about six inches square, and this is the real deciding factor, in that it acts as a brake and has a tendency to keep the velocity constant by cutting out variations due to the suction, not the pressure, of the wind. The wind can only blow down a chimney if deflected by an obstacle. It may, however, be sucked down by a lower pressure in the room.

In a flue 30 ft. high, free from obstruction, the fire produces quite sufficient upward velocity, and with a 9 in by 9 in. flue (which is, as Mr. Taylor says, too large) it does not matter much about perfect smoothness of the surface, as there is ample room even if 1 in. of soot accumulates on the surface. When a flue is blocked, one usually finds that a brick has lodged at a bend and reduced the flue to about four inches square, which easily blocks. At my home, the chimney of the usual kind with two bends has not been swept for over twenty years. Occasionally soot falls, but there is no trouble with the fire.

Quite a number of the most troublesome chimneys are due, not to a shortage of draught, but to the wind momentarily increasing the velocity, and so producing a variable factor. Many of the devices for utilising wind velocity aggravate the trouble, increasing the varying factor, when what is needed is to cut out variations as much as possible.

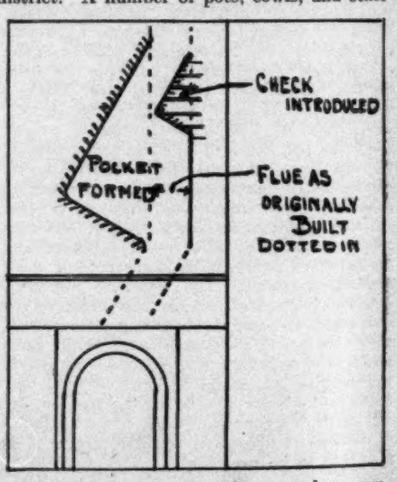
My attention was first drawn to smoky chimneys by having trouble with some houses I had built, and after I had tried various "certain" cures suggested by bricklayers and chimney-sweeps, I consulted an architect on the subject, asking him if it were possible to design a flue which one could guarantee. He said flues are just pot luck. You can take the greatest care in their construction and do all you know and they will smoke, whereas another man may build the flue in a jerry-building fashion, not properly parged, with irregular bends, and there will be no trouble.

James Stanworth.

University of Bristol Research Station,
Campden, Glos.

Sir,—Mr. D. A. Forster would appear from his letter (*The Builder*, February 12) to consider me remiss in that I have had but little to say by way of recommending methods of cure. But his own suggestion in the third paragraph of his letter, in which he draws attention to the undesirability of too much air space in the flue immediately above the fire opening, goes to show how difficult it is.

Rather more than thirty years ago an architect was called in to deal with the chimneys to two reception rooms on the ground floor of a three-story house in the St. John's Wood district. A number of pots, cowls, and other



devices had been tried without much success. One builder had reconstructed the chimney-tops and inserted louvred air bricks. Another had inserted silk flap air-inlets into the flues at picture-rail level, and a third had cut out a portion of one flue and put in a choke.

The architect scrapped all these, opened the breasts above the mantelpieces and formed chambers, as accompanying rough sketch, and this method gave complete satisfaction. Yet who would dare to advocate such a method without "hedging," and making so many reservations as to render the recommendation of very little value?

I take this occasion to add one other observation. Most builders have had cases brought to their notice where failure of pargetting has permitted smoke to pass from one flue to another through the midfeathers. With cavity wall construction this takes on a new importance, and were there no other reasons this alone would be a sufficient one for using flue liners.

J. R. Taylor.

CAST CONCRETE PRODUCTS ASSOCIATION

Concrete Products and Cast Stone.

THE first lecture arranged by the Cast Concrete Products Association was given recently by its vice-chairman, Mr. E. L. Cotterell, in the College Hall, Technical College, Bradford, under the auspices of the Bradford Education Committee. The lecture, which was entitled "Concrete Products and Cast Stone," was illustrated by a number of photographs, samples of aggregates, specimen moulds and models of machines. In addition to the students of the college and apprentices, the lecture was attended by a number of persons prominent in the architectural profession and the building industry.

The lecturer began by referring to the commercial difference between concrete products and cast stone. In the former class he included road kerbs, paving flags, building blocks, fence posts, tubes and similar products requiring honest concrete, sound and strong, cast to a shape most suitable for its purpose, but without special regard to colour or surface texture; strength, utility and economic production being prime factors. As vice-chairman of the C.C.P.A., the lecturer referred to the efforts which were being made to ensure to the user an economical and thoroughly reliable unit, principally by means of standard specifications and by important research work in conjunction with the Government Department of Scientific and Industrial Research.

After stressing the advantages of pre-cast concrete products, chief of which was the absence of maintenance costs, the lecturer showed illustrations of plant used in the manufacture of road kerbs and paving flags, including gang moulds, vibrated moulds and pressure machines. Some of these latter, operated by hydraulic power, exerted a pressure of 1,000 lb. per sq. in., or 400 tons on a single flag. Machines for the rapid production of building blocks in all ordinary sizes and with almost every conceivable surface texture were illustrated, models of several being available for his audience to experiment on.

Dealing with cast stone, or "reconstructed stone," as it is sometimes called, the lecturer said the chief requirements were durability, good surface texture and pleasing colour. Whilst in a number of cases cast stone was made to match some particular natural stone, it was not to be regarded as a mere substitute, since the ingredients were mainly the same as were found in natural stone. What had happened was, to quote one writer, that "Nature's process of employing time and gravity has simply been superseded and accelerated by man's mechanical ingenuity."

Great care was needed in the selection and grading of the aggregates, which consisted principally of silica sands and crushed stones. Generally speaking, white Portland cement was used with these aggregates to produce the delicate shades required. The lecturer mentioned the various processes used in the manufacture of cast stone—wet mixes, vibration, sand casting, plastic mixes tamped, and damp mixes hard rammed—and explained the characteristics of each. Various surface textures were also described and the methods of obtaining them.

In addition to examples of the usual types of mould—wood, plaster, gelatine, concrete, metal, etc.—the lecturer showed an example of a new type of pliable mould used for heavily undercut work. This was a form of rubber, made by the Dunlop Rubber Co., Ltd., resembling black "Turkish Delight." This mould had been filled with concrete, and the lecturer stripped the mould off and revealed a squirrel, with all details accurately reproduced. Among other moulds exhibited were two plaster piece moulds.

NEW BUILDINGS IN LONDON

The Editor would be glad to receive information for publication under this heading from architects, builders, or other persons concerned. Items should be received at THE BUILDER *Office not later than Wednesday morning.*

Bermondsey.—FLATS.—The B.C. recommend that application be made to the Minister of Health for approval to the erection of 14 flats on the Horney-lane site.

Bermondsey.—HOUSING.—The B.C. has approved sketch plans and estimates prepared by the Works General Manager for the erection of 22 flats and five shops in Silver-street areas.

Bermondsey.—REBUILDING.—Messrs. E. A. Roome and Co., Ltd., of Crown Works, Urswick-road, Hackney, E.8, are pulling down and rebuilding the "Prince of Wales" public-house, Riley-street, Bermondsey, for Messrs. Watney, Combe, Reid and Co., Ltd., under the supervision of Messrs. Mayell and Cole, F. & A.R.I.B.A., St. James-house, 73, Holland Park-avenue, W.11.

Bow-road.—ADAPTATIONS.—The L.C.C. has placed a contract with Mr. W. J. Clemens, Bridge-road, Stratford, E.15, for adaptation of Harley College as relief offices and non-residential training centre. The work is estimated to cost £3,299.

Chelsea.—FLATS.—The B.C. has approved an application submitted by the L.C.C. from Mr. A. Blomfield, architect, for the proposed erection of two double blocks of flats on the south-eastern side of Little Orford-street, S.W.

Covent Garden.—ALTERATIONS. — Messrs. E. A. Shaw and Partners, 4, Broad-court, Long Acre, W.C.2, are the architects for alterations to the old premises of the National Sporting Club, King-street. The building contract has not yet been settled.

Covent Garden. — REBUILDING. — Messrs. Hood Bros. have submitted an application to the Westminster Council for the proposed rebuilding of the Tavistock Hotel and 1/7, James-street, Covent Garden.

Dagenham.—ADDITIONS.—Additions are to be carried out at St. Peter's Church. The architect is Mr. Edward Meredith, F.R.I.B.A., 7, Goodmayes-road, Goodmayes, and the builders Messrs. Stedman Bros., New North-road, Barkingside.

Edgware-road.—REBUILDING.—Plans have been prepared by Mr. F. J. Wills, 62, Oxford-street, W.1, for the rebuilding of premises in Edgware-road for Messrs. Kennedy and Clarke. No contracts have yet been placed.

Gladstone-street.— ALTERATIONS. — Messrs. Hoare and Co., Ltd., Red Lion Brewery, St. Katherine's Way, E.1, are altering "The Albert Arms."

Highgate.—HALL.—A new hall is to be erected in Archway-road, N.19, for the Highgate Circuit of the Wesleyan Methodist Church. The Rev. Colin A. Roberts, 11, Elms-avenue, Muswell Hill, N.10, has the matter in hand. We understand that the architect is Mr. George E. Withers, F.R.I.B.A., 50, Cannon-street, E.C.4.

Ilford.—SHOPS.—A block of shops and flats are to be built in Clarence-terrace. Mr. G. F. Siegerts, 152, Meads-lane, Seven Kings, is the architect, and the builders are Messrs. Hobbs Bros., 6a, High-street, Barkingside.

Kensington.—IMPROVEMENTS.—The L.C.C. has recommended £13,770 in respect of the adaptation of wards for maternity and gynæcology purposes, new lifts and improvement of various engineering services, at St. Mary Abbots Hospital, Marloes-road, W.8.

Lewisham.—HOUSES.—Mr. L. A. Culliford, 3, John-street, W.C.1, is the architect for 144 houses to be erected upon a site abutting upon the west side of Perry Hill and south side of Houston-road.

Morden.—CHURCH.—We understand that Mr. T. M. Ashford, A.R.I.B.A., 146, Corporation-street, Birmingham, is the architect for the erection of St. George's Parish Church.

Paddington. — TENEMENTS. — Paddington B.C. proposes eight tenements on site of 61-5, Brindley-street.

Stoke Newington.—FACTORY.—The B.C. has approved plans submitted by Messrs. Arthur J. King, Ltd., for the drainage of proposed factory on the south side of Church-street at rear of new flats on the site of "The Grange."

Streatham.—SCHOOL.—The L.C.C. has recommended £18,446 for the erection of an elementary school on the Leigham Court-road site.

Upper Norwood.—ALTERATIONS.—Mr. Gordon Stanham, 26, Bush-lane, E.C.4, has prepared plans for alterations to the Royal Crystal Palace Hotel, Upper Norwood-road, S.E. The builders are Messrs. Truett and Steel, Ltd., 71, High-street, Thornton Heath.

Westminster.—HOUSING.—The City Council has recommended the tender of Messrs. Gee, Walker and Slater, Ltd., of 32, St. James's-street, S.W.1, at £79,000, for the erection of 141 flats on the Grosvenor housing site.

Willesden.—ALTERATIONS.—A contract has just been placed with Mr. W. H. Watts, 43, High-road, N.W.10, for alterations to the post office, for H.M.O.W.

NEW CINEMA

Chelsea.—A cinema building is proposed by the Gaumont-British Picture Corporation, Ltd., on a site at King's-road and Upper Manor-street. Subject to certain conditions, the Chelsea B.C. offer no objection to the application. Mr. W. E. Trent is the architect to the company, with offices at 123, Regent-street, W.1.

The Kinematograph Year Book, 1932.

This very complete publication is now issued for the nineteenth year. Concisely compiled, the book is one whose worth is no doubt realised by every administrator in the cinema industry, for all branches of the industry receive careful attention. Apart from purely technical information—digests of Acts of law relating to the cinema trade, classification of all circuits and cinemas in Great Britain and the Irish Free State, financial information, etc.—there is much of very real value to the architect and constructor engaged in cinema design, especially the article on "Equipment and Technique in 1931," by Mr. A. L. Carter. Neatly and strongly bound, the Year Book is obtainable from the Manager, "Kinematograph Year Book," 93, Long Acre, W.C.2, price 10s., post free.

INDEX TO BRITISH STANDARD SPECIFICATIONS.

The 1932 edition of the Index to British Standard Specifications has just been issued. It is a complete subject index which, in view of the large number of British Standard Specifications now available, some of which include provisions for several articles or materials, will be of much assistance to those purchasing engineering and allied material, apparatus and machinery. A numerical list of the specifications is also included. The indexed list, which covers 40 pages, shows the wide range of subjects covered by the British Standard Specifications and should be in the hands of all drawing offices and contracts departments of public authorities and firms throughout the engineering building, chemical and allied industries who have found the British Standards of such benefit in the preparation of contracts and tenders. Copies are available from the Publications Department, British Standards Institution, 28, Victoria-street, S.W.1, price 1s. 2d. post free. To assist in the wider adoption of the British Standard Specifications, the Institution has again taken accommodation at the British Industries Fair, Birmingham (Stand 18 G.2), where copies will be available both for reference and sale.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st FEBRUARY, 1932.

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]

	Masons.	Bricklayers.	Carpenters Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Aberdare	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Accrington	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Aldershot	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Alfreton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Alnwick	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Altrincham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Ashford (Kent)	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Ashington	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Ashton-under-Lyne	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Aylsham	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Banbury	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Barnsley	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Barnstaple	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/–
Barrow-in-Furness	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Barry	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Basingstoke	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bath	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bedford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Berwick	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bexhill	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Birkenhead	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Birmingham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bishop Auckland	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Blackburn	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Blackpool	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bognor Regis	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Bolton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bournemouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bradford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bradford-on-Avon	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/1½	11
Braintree	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/–
Brentwood	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bridgwater	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bridlington	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Brighton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bristol	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bromsgrove	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bromyard	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Bungay	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Burnley	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Burton-on-Trent	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bury	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bury St. Edmunds	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11
Buxton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Cambridge	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Canterbury	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Cardiff	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Carlisle	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chatham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/–
Chelmsford	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/–
Cheltenham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Chester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chesterfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chorley	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cirencester	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Clacton	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Colchester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Coventry	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cranbrook	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Crewe	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Cromer	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Darlington	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Deal	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Denbigh	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Derby	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Devizes	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/1½	11
Dewsbury	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Doncaster	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Dorchester	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Dorking	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Dovercourt	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/–
Driffield	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Droitwich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Dudley	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Durham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Eastbourne	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
E.Glam.(Mon.Val.)	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Ely	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Exeter	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/0½
Exmouth	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Fakenham	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Felixstowe	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Folkestone	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Frome	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Glossop	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Gloucester	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/0½
Godalming	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Goole	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Gosport	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Grantham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Gt. Yarmouth	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Grimsby	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Guildford	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Halifax	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Harpenden	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Harrogate	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Hartlepools	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Harwich	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/–
Hastings	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Hatfield	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hednesford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hereford	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Herne Bay	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Hertford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hitchin	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Hoddesdon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Holt	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Huddersfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Hull	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Hunstanton	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Huntingdon	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Isle of Wight	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Ipswich	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Keighley	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Kettering	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Kidderminster	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Kings Lynn	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Lancaster	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½

	Masons.	Bricklayers.	Carpenters Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Leamington Spa	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Leeds	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Leicester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Leighton Buzzard	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Lichfield	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Lincoln	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Littlehampton	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Liverpool	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Llandudno	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Llanelly	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
London—								
12 m. radius	1/7½	1/7½	1/7½	*	*	1/7½	1/7½	1/6½
12-15 m. radius	1/7	1/7	1/7	*	*	1/7	1/7	1/6
Loughborough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Lowestoft	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Luton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Macclesfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Maidstone	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/–
Malvern	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Manchester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Mansfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Margate	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Market Harborough	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Matlock	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Melton Constable	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Melton Mowbray	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Merthyr Tydfil	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Middlesbrough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Newark	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Newbury	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Newcastle-on-Tyne	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Newcastle-u-Lyme	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
New Forest	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Newmarket	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Newport, Mon.	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Northampton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Norwich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Nottingham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Nuneaton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Oakham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Oldham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Oxford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Paignton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Peterborough	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Plymouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Pontypridd	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Portsmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Preston	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Ramsgate	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Reading	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Redcar	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Redditch	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Reigate	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/–
Retford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Ripon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Rochdale	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Rochester	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/–
Rugby	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Saffron Walden	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
St. Albans	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
St. Helens	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Sawbridgeworth	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Saxmundham	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Scarborough	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Sevenoaks	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/–
Sheffield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Shrewsbury	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Sittingbourne	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Southampton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Southend-on-Sea	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Southport	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
South Shields	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stevenage	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/–
Stockport	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stockton-on-Tees	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stoke-on-Trent	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stourbridge	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Stourport	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Stowmarket	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Stratford-on-Avon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Stroud	1/4	1/4	1/4	1/4	1/4	1/4	1/3½	1/–
Sunderland	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Swaffham	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Swansea	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Swindon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Tamworth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Taunton	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/–
Thetford	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Torquay	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Totnes	1/4	1/4	1/4	1/4	1/4	1/4	1/3½	1/–
Trowbridge	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Tunbridge Wells	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/–
Uttoxeter	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/–
Wakefield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Walsall	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Walsden	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Warminster	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Warrington	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Warwick	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Wells (Norfolk)	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Welwyn Gar. City	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
West Bromwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Weston-super-Mare	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Weymouth	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Whitby	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Wigan	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Winchester	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Windsor	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wisbech	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Wolverhampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Woodbridge	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Worcester	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Worksop	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Worthing	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Wrexham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wycombe	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wymondham	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
York	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½

*The rate recognised by the National Association of Plasterers, Granolithic and Cement Workers, as and from the 1st February, 1932, is 1/9½ per hour.

For Building Trade wages in Scotland, see page 370.

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender, that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S.; Engineer, E.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

FEBRUARY 22.

Bangor.—Houses.—26, on Glynne-rd. site and 30, Pen-y-bryn, for T.C. B. Price, City Architect Dep. £3 3s.

Bow-road, E.3.—Plastering.—Tiling, etc., at Bow Institution, for the L.C.C. Chief Engineer, Old County Hall, Spring Gardens, S.W.1. Dep. £1.

Bridlington. — Painting. — Of interior of Spa Theatre, for T.C. Borough Architect, 23, Cliff-st.

Cork.—Improvements.—Improvements to Foildarrig burial ground; improvements to Baltimore burial ground; extension of water main in village of Drimoleague; fencing cottage plot in Lisheen, Bantry; fencing cottage plots (2) at Ballymaoowen and Clooncunnig, for County Board of Public Health. W. H. Spiller, secretary.

Dover.—30 Houses.—Erection of, on the Buckland housing site, for the Corporation. Town Clerk, Brook House. Dep. £2 2s.

Dublin.—Houses.—12 terrace and 2 semi-detached houses at Whitehall, Dublin, and 10 semi-detached houses at Stradbrook-rd., Blackrock, Co. Dublin, for Civil Service Housing Association, Ltd., 16, Henry-st., Dublin. T. O'Shea, secretary. Dep. £3 3s.

Enfield.—Golf Pavilion.—For the U.D.C. Clerk, Public Offices. Dep. £2.

Glasgow.—Clinic.—Temporary school clinic, at Quarrybrae School, Shettleston, for T.C. D. Stenhouse, T.C.

Hendon.—Demolition.—Cool Oak-lane pumping station, for U.D.C. A. O. Knight, E. Dep. £2 2s.

Horsham.—Cottages.—12 non-parlour, and extension of sewer at West-st., Billinghurst, for R.D.C. V. Bartrim, building surveyor, 42, Albion-ter. Dep. £1.

Knaresborough.—Installation.—Of electric light at King James's grammar school, for West Riding C.C. Education Officer, County Hall, Wakefield.

Leanhead.—Houses.—56 houses, for T.C. George B. Deas, architect, Central-chams., High-st., Kirkcaldy.

London.—Renewal.—Of sanitary system of blocks A.B.Bx., C. and D. at Swaffield-rd. Institution, Wandsworth, S.W.18, for L.C.C. Chief Engineer, Old County Hall, Spring-gdns., S.W.1. Dep. £1.

Malvern.—Houses.—50, for U.D.C. Wm. Osborne Thorp, S.

Portadown.—School.—Public elementary school at St. Patrick's, Carleton-st., for Rev. T. Canon MacDonald. H. Lamont, architect, 83, Royal-av., Belfast. Dep. £3 3s.

Rothwell.—Installation.—Low-pressure hot water apparatus and electric light at new grammar school, for West Riding C.C. Education Officer, County Hall, Wakefield.

Southborough.—Housing.—32 at Kibbles-lane, for U.D.C. S. Dep. £2 2s.

Stockton-on-Tees. — Houses. — 20 on Blue Hall estate, for T.C. George P. Stainsby, A.R.I.B.A., 25, High-st. Dep. £2 2s.

Taunton.—Pavilions.—(*a*) Sports pavilion on playing field, Bridgwater-rd.; (*b*) sports pavilion on playing field, Galmington, for T.C. Samson and Colthurst, architects, 1, Hammet-st.

Thakeham.—Housing.—24 non-parlour at Washington, for R.D.C. Ford and Harkess, architects, 12, City-rd., London, E.C.1.

Washington.—Houses.—28 on Council's Heworth-rd. site, for U.D.C. R. J. Swaddle, architect, Council-chambs. Dep. £3 3s.

FEBRUARY 23.

Beaford.—House.—For police constable, for Devon C.C. County Architect's Office, 97, Heavitree-rd., Exeter.

Bilborough.—Premises.—Public-house at Broxtowe-lane, for Hansons, Ltd., Kimberley Brewery, near Nottingham. A. G. Wheeler, F.F.A.S., "Orchardleigh," Eastwood, Notts. Dep. £3 3s.

***Cranbrook.**—Cottages.—9 pairs of cottages on site at Causton-rd., Cranbrook, 3 pairs of cottages on site on Maidstone to Sissinghurst-rd., Cranbrook, and 1 pair of cottages in Kilndown parish, for R.D.C. E. Clarke, clerk. Dep. £1 1s.

Glasgow.—Houses.—60, on Carlton area, for T.C. D. Stenhouse, T.C.

Hull.—Additions.—To central telephone exchange and Wincolmlee automatic exchange, for T.C. D. Harvey, A.R.I.B.A., City Architect. Dep. £1 1s. each.

Liverpool.—Cottages.—2 pairs of cottages, for Liverpool Corporation. Water Engineer, 56, Dale-st. Dep. £1 1s.

Meath.—Cathedral.—Cathedral at Mullingar Co. Westmeath for the Most Rev. Thomas Mulvany, D.D., Lord Bishop of Meath. W. H. Byrne and Son, architects, 20, Suffolk-st., Dublin. Dep. £10 10s.

FEBRUARY 24.

Barnwood, Glos. — Telephone Exchange. — For H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

Dewsbury.—Extensions.—To technical college, Halifax-rd., for C.B. Borough Architect and Surveyor. Dep. £3 3s.

Eston.—Cottages.—100 two-bedroom cottages and 48 aged people's two-room bungalows, for U.D.C. S. Dep. £2 2s.

Edinburgh.—Wall.—New rubble wall, dressed stone cope, etc., at Northfield Broadway, fronting extension to Edinburgh and Portobello Cemetery, for T.C. City Road S.

Liverpool.—Lake.—Work in connection with clay puddling, concrete lining, etc., to new boating lake at Calderstones-pk., for T.C. Land Steward and Surveyor.

Ongar.—Cottages.—10 at King-st., High Ongar, and 4 at Greensted, for R.D.C. P. R. B. Pearce, Building Surveyor. Dep. £1 1s.

FEBRUARY 25.

Braintree.—Oak gates and approximately 290 lin. ft. of close boarded oak fencing, etc.—For Braintree and Bocking Joint Hospital Board. D. G. Armstrong, architect, 57, High-st.

Brighton.—Heating.—Accelerated low-pressure hot water heating, etc., at head post office, for H.M.O.W. Contracts Branch, H.M. Office of Works, King Charles-st., S.W.1. Dep. £1 1s.

Down.—School.—Public elementary school building at Waringstown, for County Regional E.C. Castor J. Love, architect, 5, Wellington-place, Belfast.

Erith.—Fencing.—100 yd. run of 6-ft. angle-iron fencing, complete with all necessary posts, stays, base-plates, etc., in 9-ft. panels and gates, at St. Mary's Hall, Abbey Wood, for U.D.C. H. Hind, E. and S. Dep. £1.

Liversedge, Yorks. — Employment Exchange, Spen Valley.—For H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

FEBRUARY 26.

Flushing (Cornwall).—Cottages.—3 cottages. A. J. Cornelius, architect, Truro.

Sheffield. — Employment Exchange. — For H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

Stratford, E. — Employment Exchange. — For H.M.O.W. Contracts Branch, King Charles-st., London, S.W. Dep. £1 1s.

FEBRUARY 27.

Doncaster.—Levelling.—Excavation, tipping, and levelling in Low Pasture, for proposed aerodrome, for C.B. R. E. Ford, estates surveyor, 3, Priory-place.

Kent.—Painting.—Also general repairs to certain school premises, for E.C. W. H. Robinson, F.R.I.B.A., Springfield, Maidstone.

Thrapston.—Houses.—12 at Woodford, for R.D.C. W. A. Lea, architect, 4, Market Hill, Huntingdon. Dep. £1 1s.

Weymouth.—Painting.—Greenhouses, frames and potting shed at Melcombe Regis Gardens, for Corporation. R. W. Vine, B.E. and S.

FEBRUARY 29.

***Chelmsford.** — Headquarters. — Erection of London-rd., also alterations to "Inglenook," Marlborough-rd., for the Essex Army Territorial Association. The Secretary, Market-rd. Dep. £2 2s.

Dosking.—Houses.—12 at North Creake, for R.D.C. H. East, housing architect. Dep. £1 1s.

Galashiels.—Houses.—6 blocks of houses at Tweed-rd., for T.C. J. & J. Hall, architects.

Hedge End.—School.—New Council school. Clerk, The Castle, Winchester. Dep. £1 1s., payable to Hampshire C.C.

London.—General Works, etc.—For the L.C.C. Clerk, County Hall, Westminster Bridge, S.E.1. Dep. £3.

Wellingborough. — Houses. — Robert-st. housing site, for U.D.C. E. and S. Dep. £1 1s.

MARCH 1.

***Bedford.**—Houses.—London-rd. housing estate. Borough Engineer, Newnham House, Horne-lane. Dep. £5.

Clare.—Housing.—6 pairs of non-parlour houses, for R.D.C. H. Brown Thake, architect, 10, High-st., Haverhill.

Uruguay.—Slaughterhouse.—Large slaughterhouse and plant, for Frigorifico Nacional: Department of Oversees Trade, 35, Old Queen-st., S.W.1. (Ref. No. G.X. 10927.)

MARCH 4.

***Crouch End, N.8.**—School Clinic.—For the Hornsey T.C. Secretary for Education, 79, Crouch End-hill, N.8.

***Uxbridge.**—Housing.—60, and roads and sewers in connection therewith on Glebe housing estate, for U.D.C. William L. Eves, F.R.I.B.A., 54, High-st. Dep. £2 2s.

Wednesbury.—Houses.—16 non-parlour type, on Mesty Croft site, for T.C. A. Booth, B.E. and S. Dep. £2 2s.

MARCH 7.

Stranraer.—Houses.—8 blocks of 4 houses in Glebe-st., for T.C. A. Maclean Goudie, architect, 30, Lochryan-st. Dep. £1.

Yeovil.—Houses.—10 non-parlour type at Preston-rd., for T.C. B.S. Dep. £1 1s.

MARCH 8.

Goole.—Houses.—12, at Swinefleet, for R.D.C. Architect, 6, Belgravia. Dep. £1 1s.

***Heddesdon.**—New school at Rye Park, for Herts. C.C. County Surveyor, Hatfield, Herts. Dep. £2 2s.

MARCH 9.

Accrington.—Superstructure.—For Police Station, Fire Station and Firemen's Dwellings, for the Corporation. Town Clerk, Town Hall. Dep. £2 2s.

***Harlow, Essex.**—Post Office.—For H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1 Dep. £1 1s.

***Kensington, W.**—Flats.—Lancaster-rd. Town Clerk, Town Hall, W.8. Dep. £2 2s.

MARCH 10.

Nottingham.—Baths.—Washhouse and slipper baths, Main-st., Bulwell, for T.C. T. Wallis Gordon, City E. and S. Dep. £1.

MARCH 14.

Salford.—Houses.—96 houses at Wheater's Field, Lower Broughton-rd., Salford, and 84 houses at Gerald-rd., Pendleton, for T.C. City E. Dep. £3 3s. each.

MARCH 19.

***Oldham.**—Electric Light Installation, etc.—Derker housing estate, for the Corporation. Chairman, Housing Committee, c/o Borough Engineer and Surveyor, Town Hall. Dep. £1 1s.

NO DATE.

Cashel.—School.—Technical school, for County Tipperary (S.R.) Vocational E.C. Joseph Connolly, architect

Keighley.—Wiring.—Electric wiring of houses, for T.C. E. G. Felgate, Borough Architect. Dep. £1.

Milnsbridge.—Houses.—6 houses, also 2 houses, on Society's estate at Cowlersley, for Milnsbridge Perseverance Co-operative Society, Ltd. J. Ainley, architect and surveyor, 25, Market-st., Huddersfield.

Wisbech.—Fire Station.—In Horsefair, for T.C. B.S.

MATERIALS, etc.

FEBRUARY 22.

Beddington and Wallington.—Cement, etc.—For U.D.C. S. P. R. Carter, E. and S.

Consett.—Road Materials.—For U.D.C. T. Hutton, S.

Dartford.—Road Materials.—For U.D.C. E. J. Hobbs, clerk.

Derby.—Highway Materials.—For C.B. E. H. Bennett, B.S.
Dewsbury.—Road Materials.—For C.B. E. Shaw, B.E.
East Barnet Valley.—Gravel, etc.—For U.D.C. C. M. Barnes, E. and S.
Ilkeston.—Granite, etc.—For T.C. B.S.
London.—Highway Materials.—For Lewisham B.C. J. W. Shuter, T.C.
Mossley.—Building Materials.—For U.D.C. Evan Davies, S.
Margate.—Highway Materials.—For T.C. E. A. Borg, B.E., 40, Grosvenor-pl.
Nottingham.—Highway Materials.—For T.C. T. Wallis Gordon, City E. and S.
Pontefract.—Highway Materials.—For R.D.C. J. E. White, E. and S.
Rawtenstall.—Road Materials.—For T.C. B.S.
Redruth.—Roadstone.—For R.D.C. F. L. Rider, S., 8, Penryn-st.
Romney Marsh.—Crushed Beach.—For R.D.C. H. J. Smith, S., New Romney, Kent.
Sidcup.—Road Materials.—For U.D.C. S.
Southend-on-Sea.—Highway Materials.—For C.B. H. Dyer, B.E.
Stoke-on-Trent.—Highway Materials.—For T.C. City S.
Teddington.—Road Materials.—For U.D.C. E. Bostock, S.
Watford.—Bricks, etc.—For T.C. W. W. Newman, B.E.
Whitchurch.—Highway Materials.—For U.D.C. S.
Wortley.—Road Materials.—For R.D.C. F. Thurlby, E. and S.

FEBRUARY 23.

Haslingden.—Highway Materials.—For T.C. R. Taylor, B.S.
Leeds.—Builder's Materials.—For T.C. Chairman, Tramways and Transport Committee, Tramways Office, Swinegate.
Lichfield.—Highway Materials.—For T.C. N. Auty, City E. and S.

FEBRUARY 24.

Alfreton.—Slag, etc.—For U.D.C. R. F. Ward, S.
Brierley Hill.—Road Materials.—For U.D.C. J. Yorke, S.
Cambridge.—Road Materials.—For T.C. B.E. and S.
Croydon.—Painting Materials.—For C.B. J. M. Newnham, T.C.
Ealing.—Road Materials.—For T.C. W. R. Hicks, B.S.
Poole.—Road Materials.—For U.D.C. J. H. Castle, E. and S.
Hampton.—Road Materials.—For U.D.C. S. H. Chambers, S.
Isle of Thanet.—Granite.—For R.D.C. G. L. Butterworth, S.
Kingston-upon-Hull.—Cement, etc.—For T.C. H. Hamer, City E.
Littlehampton.—Highway Materials.—For U.D.C. S.
London.—Highway Materials.—For Hammersmith B.C. B.E. and S.
Loughborough.—Road Materials.—For T.C. W. Granger, B.S.
Merton and Morden.—Highway Materials.—For U.D.C. C. J. Mountifield, clerk.
Portland.—Granite.—For U.D.C. R. Davison, E. and S.
Prestwich.—Road Materials.—For U.D.C. H. T. Ainsworth, S.
Southampton.—Tar.—For C.C. W. J. Taylor, C.S., Winchester.

FEBRUARY 25.

Barnes.—Roadmaking Materials.—For U.D.C. F. P. Kindell, E. and S.
Brierfield.—Road Materials.—For U.D.C. S.
Lichfield.—Road Materials.—For R.D.C. E. and S.
Normanton.—Road Materials.—For U.D.C. S.
Plymouth.—Sand, etc.—For T.C. R. J. Fittall, T.C.
Uxbridge.—Highway Materials.—E. E. T. Bolton, E. and S.
Wellingborough.—Road Materials.—For U.D.C. E. and S.

FEBRUARY 26.

Carshalton.—Road Materials.—For U.D.C. R. S. Davey, E. and S.
Eastbourne.—Highway Materials.—For C.B. L. Rosevear, B.E.
Hastings.—Paints, etc.—For C.B. S. Little, B.E., 37, Wellington-sq.
Queenshury.—Road Materials.—For U.D.C. T. A. Noble, S.
Wilmslow.—Granite, etc.—A. S. Cartwright, S.

FEBRUARY 27.

Hayes and Harlington.—Highway Materials.—For U.D.C. G. H. Connor, E. and S.
Heylake and West Kirby.—Cement, etc.—For U.D.C. W. H. Maitland, E. and S.
Midsomer Norton.—Road Materials.—For U.D.C. S.
Oldbury.—Road Materials.—For U.D.C. W. Greenwood, E. and S.
Padiham.—Highway Materials.—For U.D.C. H. Russell, E. and S.
Pudsey.—Road Materials.—For T.C. Highway Surveyor.
Silsden.—Road Materials.—For U.D.C. S.
Slough.—Road Materials.—For U.D.C. A. Bromly, E. and S.
South Shields.—Road Materials.—For C.B. J. Paton Watson, B.E.

FEBRUARY 29.

Aston.—Highway Materials.—For T.C. B.E.
Bognor Regis.—Highway Materials.—For U.D.C. J. Draner, E. and S.
Hadleigh.—Road Materials.—For U.D.C. S.
Holburn.—Highway Materials.—For U.D.C. T. Stuart, clerk.
Leeds.—Lime, etc.—For T.C. S. Thornley, Superintendent, Cleansing Dept., Dock-st.
Penarth.—Road Materials.—For U.D.C. E. I. Evans, S.
Prescot.—Highway Materials.—For U.D.C. F. A. Gregson, E. and S.
Rothwell.—Sanitary Stores.—For U.D.C.—C. A. E. Snell, S.

MARCH 1.

Bebington and Bromborough.—Road Materials.—For U.D.C. P. Parr, E. and S.
Birkenhead.—Highway Materials.—For Corporation. Water Engineer, 601, Borough-rd.
Brodbury and Romiley.—Road Materials.—For U.D.C. S.
Cairo.—Asphalt.—3,750 tons of asphalt, for Egyptian Ministry of Public Works. Dept. of Overseas Trade, 35, Old Queen-st, S.W.1. (Ref. No. B.X. 7244.)
Friern Barnet.—Granite Chippings, etc.—For U.D.C.—J. Montague Gameson, E. and S.
Seaford.—Road Materials.—For U.D.C. E. A. Lister, S.
Thornton Cleveleys. — Road Materials. — For U.D.C. H. Fenton, S.
Wrexham.—Cement, etc.—For T.C. J. England, B.E.

MARCH 2.

Denbighshire.—Road Materials.—For C.C. E. A. Evans, C.S., 46, Clwyd-st., Ruthin.
Wembley.—Road Materials.—For U.D.C. C. R. W. Chapman, E. and S.
Weston-super-Mare.—Cement, etc.—For U.D.C. H. A. Brown, E. and S. Dep. £1 1s.

MARCH 3.

Bromley.—Tarred Slag.—For R.D.C. T. Watson, E. and S.
East Ham.—Building Materials.—For Corporation. C. E. Wilson, T.C.
Peterborough.—Cement, etc.—For T.C. W. H. A. Court, City E. and S.
Sevenoak.—Road Materials.—For U.D.C. S.

MARCH 4.

Morley.—Highway Materials.—For T.C. F. Turner, B.E.
Nelson.—Road Materials.—For T.C. F. V. Alexander, B.E. and S.
Tipton.—Highways Materials.—For U.D.C. K. W. Madin, clerk.

MARCH 5.

Barnet.—Highway Materials.—For U.D.C. E. and S.
Berkshire.—Painting Materials.—For C.C. H. J. C. Neobard, clerk.
Gt. Yarmouth.—Plumbing Materials.—For C.B. S. P. Thompson, B.E.
Littleborough.—Road Materials.—For U.D.C. G. F. Wild, S.
Marple.—Highway Materials.—For U.D.C. D. J. Diver, S.
Rutland.—Highway Materials.—For C.C. R. C. Dalton, clerk, 7, Catmose-st., Oakham.
Southampton.—Stoneware Pipes, etc.—For C.C W. J. Taylor, C.S., Winchester.

MARCH 7.

Dover.—Cement.—For Dover Harbour Board. R. Mowll, Registrar of Dover Harbour Board, Castle-st.
Huyton-with-Roby.—Road Materials.—For U.D.C. A. W. Thomas, E. and S.
Rugby.—Stone, etc.—For U.D.C. W. H. Spicer, E. and S.
Rugby.—Tar.—For U.D.C. W. H. Spicer, E. and S.

MARCH 8.

Kidderminster.—Highway Materials.—For T.C. J. Hawcroft, B.E. and S., 110, Mill-st.

MORRIS SINGER COMPANY
LONDON S.W.8. REL 2821
ARCHITECTURAL CRAFTSMEN
EST: 1830

MARCH 9.

Macclesfield.—Paints, etc.—For Cheshire County Mental Hospital. W. G. F. Tangay, clerk.
Surrey.—Highway Materials.—For C.C. H. Beeney, County Divisional Surveyor, County Divisional Surveyor's Office, West Byfleet.

APRIL 2.

Cairo.—Paints, etc.—For Director of Stores, Department of Public Health, Cairo. Department of Public Health, Cairo.

NO DATE.

Salford.—Bricks, etc.—For T.C. City Electrical Engineer, Electricity Dept., Frederick-rd.

ENGINEERING, IRON AND STEEL.

FEBRUARY 22.

Blackrock.—Waterworks.—Proposed waterworks at Blackrock, near Dundalk, Co. Louth, for Louth County Board of Health and Public Assistance. John F. McGahon, Exchange-buildings, Dundalk. Dep. £5 5s.
Gainsborough.—Boring.—Putting down of boring through red marl into new red sandstone formation to a depth of about 1,700 ft., lining it with 36-in., 30-in., 27-in. and 24-in. internal dia. steel tubes, and providing necessary pumping plant for testing its yield, for U.D.C. W. Vaux Graham, 5, Queen Anne's-gate, Westminster. Dep. £5.
Shipley.—Wall.—Ferro-concrete on Hennebique system, of bridge and retaining wall in connection with proposed new road from Crag-rd. to St. John-st., for U.D.C. H. Dawson, E. and S. Dep. £3 3s.

FEBRUARY 23.

Nairn.—Water Supply.—Excavating and refilling trenches, for supplying, laying and jointing about 2,940 lin. yds. of 8-in. dia. steel pipes from Tomchluig Farm to reservoir at Meikle Urchany Farm; the supplying, laying, etc., of about 1,200 lin. yds. of 3 and 4-in. distributing mains, for T.C. J. H. G. Peter, B.S., Queen-st. Dep. £3 3s.
Soke of Peterborough.—Bridges.—Reinforced concrete bridges on Stamford-Peakirk-Thorney road, for C.C. Clerk, Peterborough.

FEBRUARY 24.

Edinburgh.—Bridge.—New bridge, Balgreen-rd., over Water of Leith, for T.C. B.E.

FEBRUARY 25.

Erith.—Gate.—Provision and fixing of a level crossing gate, 43 ft. in length, at Station Wharf, West-st., for U.D.C. H. Hind, E. and S. Dep. £1 1s.

FEBRUARY 26.

Galloway. — Tunnel. — Construction of Glenlee Tunnel, in connection with the Galloway power works, for Galloway Water Power Co. Sir Alexander Gibbs & Partners, engineers, Queen Anne's Lodge, Westminster, S.W.1. Dep. £10 10s.
Kingsbridge.—Sewerage.—360 yd. of 6 in. stoneware pipe sewers, with manholes, septic tanks, and incidental works, at East Prawle, Chivelstone, for R.D.C. Lemon and Blizard, consulting engineers, 24, Lockyer-st., Plymouth. Dep £2 2s.

MARCH 2.

Market Bosworth.—Drainage.—Laying of about 1,000 yd. of stoneware pipe sewer, 6 in. to 12 in. dia., and construction of sewage outfall works, in parish of Markfield, for R.D.C. Pick, Everard, Keay and Gimson, engineers, 6, Millstone-lane, Leicester. Dep. £2 2s.
Market Bosworth.—Drainage.—Laying of 500 yd. of stoneware pipe sewers, 9-in. and 12-in. dia., and construction of sewage outfall works, in parish of Stanton-under-Bardon, for R.D.C. Pick, Everard, Keay and Gimson, engineers, 6, Millstone-lane, Leicester. Dep £2 2s.

MARCH 5.

East Grinstead.—Tanks.—Construction at Eden Vale sewage disposal works, East Grinstead, of percolating filter, storm water tanks, sludge filters, and alterations to existing sedimentation tanks, together with pipe lines, manholes and contingent materials and works, for U.D.C. E. and S. Dep. £2 2s.
Llangeinor.—Station.—Pumping station at Llangeinor, for Mid-Glamorgan Water Board. Thomas & Morgan & Partners, civil engineers, Pontypridd. Dep. £5 5s.

MARCH 6.

Portsmouth. — Hangar. — Steel-framed service hangar at Portsmouth Municipal Aerodrome, for T.C. R. J. Jenkins, City E. Dep. £2 2s.

MARCH 7.

Glamorgan.—Sewage.—Sewerage and sewage disposal works and cast-iron mains at Hensol Castle, for C.C. Thomas & Morgan & Partners, engineers, 23, Gelliwastad-rd., Pontypridd. Dep. £5 5s.
Staffordshire.—Widening of Ireland County bridge, Clarkes-lane, Willenhall, for C.C. R. S. Murt, C.S., Lloyd's Bank-chambers, Stafford. Dep. £2 2s.

MARCH 8.

Sandown.—Waterworks.—Mass concrete sedimentation tank at waterworks pumping station, for U.D.C. S. Dep. £2 2s.

MARCH 9.

Birmingham.—Sewerage.—Construction of Birmingham Meriden and Solihull joint sewerage section (2) contract 2 (syhon and aqueduct at Cole End), for T.C. H. Humphries, City E. and S. Dep. £2.

Swindon.—Reservoir.—Reinforced concrete reservoir, for T.C. Dr. H. Lapworth, 25, Victoria-st., S.W.1. Dep. £5.

MARCH 16.

Scunthorpe and Frodingham.—Bridge.—New bridge over L. and N.E. railway at Scunthorpe, for U.D.C. W. Farrar, E. and S. Dep. £5.

MARCH 21.

Middlesex.—Sewerage.—For West Middlesex main sewerage scheme for C.C. Dodd & Watson, engineers, Wellington House, Bennetts-hill, Birmingham. Dep. £5 5s.

South Africa.—Bridgework.—Fabricated steel bridge material, troughing, etc., required for Beaufort West—De Aar Section, Cape Town—Beaufort West Section, Klipplaat—Oudtshoorn Section, Bethal, Volksrust Section, for South African Railways and Harbours. Dept. of Overseas Trade. 35, Old Queen-st., S.W.1. (Ref. GX. 11161).

MARCH 22.

Dublin.—Reconstruction.—In steel of inner dock swing bridge, George's Dock, Custom House Docks, for Dublin Port and Docks Board. E., East Wall, Dublin, C.10. Dep. £3 3s.

ROAD, SEWERAGE, AND WATER WORKS.

FEBRUARY 22.

Beddington and Wallington.—Making-up.—Of Aldwick-rd., for U.D.C. S. F. R. Carter, E. and S., 42, Woodcote-rd., Wallington. Dep. £2 2s.

Benfleet.—Making-up.—Of Thundersley Park-rd. (second portion), South Benfleet, for U.D.C. S. Dep. £2 2s.

Dover.—Excavation, Drainage, etc.—Buckland housing site, for the Corporation. Town Clerk, Brook House. Dep. £2 2s.

Fife.—Drainage.—Providing and laying about 590 yds. of fireclay sewers from 9 in. and 6 in. dia., with manholes and other relative works, also about 110 yds. of 9 in. dia. steel tube outfall sewer on foreshore at Boreland, for C.C. H. F. Hodge, M.Inst.C.E., County Engineer, County Offices, 34, Viewfield-ter., Dunfermline. Dep. £1 1s.

Fife.—Drainage.—Providing and laying about 860 yds. of fireclay sewers from 9 in. to 6 in. dia., with manholes and other relative works, also about 95 yds. of 9 in. dia. steel tube outfall sewer on foreshore at Rosie, for C.C. H. F. Hodge, M.Inst. C.E., County Engineer, County Offices, 34, Viewfield-ter., Dunfermline. Dep. £1 1s.

Hayes and Harlington.—Main.—1,600 yds. of 16-in. dia. steel pumping main, for U.D.C. E. A. Sandford Fawcett, consulting engineer, 53, Victoria-st., Westminster, S.W.1. Dep. £3 3s.

Honley Holme.—Lay-out.—Preparation, clearing and lay-out of the grounds and playing fields at Honley Holme Valley new grammar school, for West Riding E.C. Education Officer, County Hall, Wakefield.

Ilford.—Making-up.—Of Grove-rd., for T.C. L. E. J. Reynolds, B.E. Dep. £2 2s.

Manchester. — Paving. — Sewering, draining, paving (concrete), flagging (artificial flags), etc., Egerton-rd. South, Withington; Goulden-rd., Withington; Buckingham-rd., Withington; draining, paving (tar macadam), flagging artificial flags), etc., Kendall-rd., Crumpsall, for T.C. F. E. Warbreck Howell, T.C. Dep. £1 1s.

South Mimms.—Drainage.—385 yd. of stoneware sewer with manholes and appurtenant works for R.D.C. B. Carr, S. Dep. £1.

FEBRUARY 23.

Billericay.—Making-up.—Of Prince Edward-rd., Shakespeare-av.; Mons-av.; Thynne-rd.; The Meadow-way; Cavell-rd., and The Rising, for R.D.C. H. B. Mayhew, S. Dep. £3 3s.

Epsom.—Improvements.—To Stones-rd. and part of Portland-pl., for U.D.C. E. G. Timbrell, S. Dep. £2 2s.

Leeds.—Roads.—Formation of roadways and footpaths on York and Selby-rd. housing estate, for T.C. J. E. Acfield, City E.

Southall-Norwood.—Reconstruction.—Of section of Wimborne-av., for U.D.C. J. B. Thomson, E. and S. Dep. £2 2s.

Wood Green.—Reconstruction.—Of haunches and widening carriageway, Lordship-lane, for U.D.C. R. H. Matthews, E. and S. Dep. £2 2s.

FEBRUARY 24.

Dagenham.—Repairs.—Maintenance and repairs of mastic asphalt and ballast mastic asphalt on roads and footpaths in district, for U.D.C. E. and S. Dep. £1 1s.

Hendon.—Making-up.—Of Woodberry-av. and Kingsway-cres., for R.D.C. H. W. Rackham, S. Dep. £3 3s.

Kingston-upon-Hull.—Improvements.—To back-rd. at rear of Marlborough-ave., Westbourne-ave., and Richmond-st., for T.C. H. Hamer, City E.

New Windsor.—Making-up.—Of College-crescent. For T.C. F. N. McRae, B.E., 16, Alma-rd. Dep. £2 2s.

FEBRUARY 25.

Erith.—Making-up.—Kerbing and channelling footpath of Lesney Park, for U.D.C. Harold Hind, E. and S. Dep. £1.

Finchley. — Widening. — Improvement works, Woodside-lane; also resurfacing in Woodside-lane, North Finchley, for U.D.C. Percival T. Harrison, E., 9, The Hawthorns, Regent's Park-rd., Finchley, N.3. Dep. £1.

Reading.—Improvements.—In Matlock-rd., Harrogate-rd. and St. Andrew's-rd., for C.B. B.S. Dep. £2 2s.

FEBRUARY 26.

***London, E.**—Tar-paving.—At schools, in course of erection, for the West Ham E.C. John H. Jacques, 61, West Ham-lane, Stratford, E.15. Dep. £1 1s.

Sowerby.—Making-up.—Of Bright-st., Dearden-st., Langton-st., Denby-place, Fern Lea-st. and adjoining streets, for U.D.C. J. Eastwood, S.

Wilmslow.—Tarring.—Surface spraying approximately 100,000 sq. yd., for U.D.C. A. S. Cartwright, S.

FEBRUARY 27.

Coulsdon and Purley.—Widening.—Of portion of Old Lodge-lane, for U.D.C. G. A. Ballard, S. Dep. £1 1s.

Kirkcaldy.—Reconstruction.—Of St. Clair-st. and Rosslyn-st., for T.C. B.S.

Louth.—Tarspraying.—60,000 sup. yds. of roads, for T.C. G. H. Allison, B.S.

FEBRUARY 29.

Heckmondwike.—Drainage.—425 yd. of 12-in. glazed socketed stoneware pipes and manholes, in Leeds Old-rd., for U.D.C. F. W. Littlewood, S.

Thorne.—Sewerage.—One mile of 9 in. and 12 in. cast iron and stoneware pipe sewers, with concrete manholes, also for laying of a 15 in. cast iron pipe sewer, across Stainforth and Keadby Canal, for R.D.C. W. H. Radford & Son, civil engineers, Albion-chamb., King-st., Nottingham. Dep. £3 3s.

MARCH 1.

***Bedford.** — Roads and Sewers. — London-rd. housing estate. Borough Engineer. Newnham House, Horne-lane. Dep. £5.

Waddesdon.—Mains.—600 yd. of 4-in. and about 785 yd. of 3 in. "spun" iron water mains and appurtenant works.—For U.D.C. A. E. Bewes, S. Dep. £1 1s.

MARCH 2.

Acton.—Improvements.—Acton-lane, near Chiswick Park Station (M.D.R.), for T.C. W. G. Cross, B.E. Dep. £2 2s.

Stockton-on-Tees. — Resewering.—Of Lustrum Beck area, for T.C. J. P. Wakeford, B.E. Dep. £5.

MARCH 5.

Aldeburgh.—Main.—4 in. C.I. water main, 3,033 ft. in extent, along Leiston-rd., for T.C. J. C. Gordon, B.S.

Rowley Regis.—Sewer.—47 yd. of sewer along Birmingham-Wolverhampton-rd. at Tividale, near to Hill-rd., including one flushing-shaft, for U.D.C. D. Wright, clerk.

Wimbledon.—Making-up.—The Quadrant, for T.C. B.E. Dep. £2 2s.

Public Appointment

MARCH 1.

***Horsham.**—Housing Assistant (Temporary) required by the U.D.C. Clerk, Council Offices, Horsham-pk.

British Building Specifications.

At this time, some 100 British Standard Specifications are available for facilitating the making up of contracts and tenders for building work. These Specifications represent good British practice, and their more extensive use will tend to eliminate cheap but inferior foreign goods from flooding the market. The Building Division of the British Standards Institution, known until recently as British Engineering Standards Association, has played a modest but active part in that organisation's activities, and under the reconstitution of the Institution an extensive field of work lies before it.

Since the Division's inception a few years ago, 32 British Standards for building materials and equipment, and a series of 68 specifications for paints, varnishes and paint ingredients, have been issued. These Specifications have been prepared by fully representative and competent committees of users, manufacturers, and professional interests, and are of the agreed recommendations of these committees. Copies of published Specifications can be obtained from the Publication Department of the B.S.I. Some 20 further Specifications are at present in course of preparation, perhaps the most important of these being the B.S. Specification for the use of Structural Steel in Buildings.

Membership of the British Standards Institution is now open to all British subjects and companies, technical and trade associations, local and public authorities. Such membership, in addition to supporting the work of the Institution, carries with it special advantages, among which is the right to receive gratis copies of British Standard Specifications as and when published. Application forms, lists of Specifications, and any further particulars may be obtained from the Publication Department, British Standards Institution, 28, Victoria-street, S.W.1.

PROPOSED NEW BUILDINGS AND OTHER WORKS*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education; M.W.B. for Metropolitan Water Board; Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Clerk, C.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S.; Engineer, E.

Aberdeen.—Demolition at Holburn Junction and erection at Holburn-st. of 4-story offices, Aberdeen Savings Bank Co. J. Nicol, architect, 363, Union-st.

Accrington.—T.C. to erect 'bus shelters at Shep-lane, Manchester-rd., Lister-st. and Blackburn-rd., Henry-st. and Blackburn-rd., Market-st., Church Wade-st.

Airdrie.—Reconstruction and extension at St. Margaret's R.C. school. J. Stewart, architect, Albert-st., Motherwell.

Ashington (Northumberland).—U.D.C. approved amended plans for child welfare centre to cost £7,345. Plans by G. Beatty, S.

Ballieston.—New housing scheme of some 40 houses by Lanarkshire C.C. P. Smith, architect, County Offices, Hamilton.

Belfast.—New hotel in Donegall-sq. East. Colonel J. E. Adamson, L.R.I.B.A., 56, Victoria-st., Westminster, London, S.W.1, architect.—Plans for Finiston School, Oldpark-rd., Belfast, been passed by City Surveyor.

Blackpool.—Flynn & Flynn, architects for presbytery for Church of Holy Family, North Shore.

Blackpool.—Mr. E. Armitage proposes 11 houses in Annesley-av., which C.B. have approved. C.B. is to erect bus passenger shelter on Maybell-av.—C.B. passed following plans: 6 houses, Haddon-rd., J. Ridyard; 5 houses, Rosecere, etc., A. Fletcher; 57 houses, Weymouth-rd, etc., Pimley & Topping; 16 houses, Colchester-rd., etc., G. & H. H. Whitehead; 10 houses, Coveway-av., A. Wilson & others; additions to dairy, 4, Milbourne-street, J. H. Rothwell; and additions, Claremont Private Hotel, J. Anderson.—Messrs. F. T. Waddington & Son, F.R.I.B.A., 52, Abingdon-st., Blackpool, are laying-out Pelham Mount estate; lay-out approved by C.B.—Messrs. Lumb & Walton, 19, Clifton-st., Blackpool, are engaged in laying-out the Bispham House estate, for Messrs. Mills.—Mr. Robinson, C.B., chief architectural assistant, is to prepare plans for crematorium at proposed Carleton cemetery.

Blyth.—T.C. to consider proposal to erect 100 houses at £35,000 on South Farm estate. L. Leeper, B.E.

Bridlington.—T.C. approved:—E. V. King, 6 houses, New-rd., Queensgate, J. S. Shaw; F. Vanx, 14 houses, Queensgate, J. Sawdon.

Carfin.—Lanarkshire C.C. to erect new Carfin district school. J. Stewart, architect, Albert-st., Motherwell.

Carmyle.—New housing scheme for Lanarkshire C.C. P. Smith, architect, County Offices, Hamilton.

Carnarvon.—T.C. approved:—plans of lay-out for housing scheme at Cae Capel and Cae Stoddard.—It was also recommended that application be made to M.H. for approval for 58 non-parlour houses.

Choppington Guide Post.—Site been secured by C.C. for infants' school.

Consett (Durham).—Consett-grove Council school to be enlarged. Plans by F. Willey, architect to Durham County E.C., 34, Old Elvet, Durham.

Coventry.—T.C. approved:—rebuilding "The Cranes" public-house, Bishop-st., Mitchells & Butlers, Ltd.; 6 houses, Moat-av., A. E. Taylor; 5 houses and 1 house with shop, Humber-av., G. Parmer; billiard hall, Lockhurst-lane, E. O Shanks & Sons, Ltd.; 5 houses, Freeman-st., Kendall & Sons; extension of factory, Much Park-st., W. Franklin & Son, Ltd.; 8 houses, Wainbody-av., J. T. Smith; St. Barnabas Church, corner of Oliver-st. and Cromwell-st., St. Mark's Parochial Church Council; proposed shopping centre, Willenhall-lane, Binley, R. Eborall; 16 houses, Emerson-rd., Wyken House estate, C. A. Anelay; 18 houses, Woodlands-rd., Bedworth U.D.C., Bedworth; 8 houses, new street off Watery-lane, Keresley, H. J. Dalton; public convenience, Nuneaton-rd., Bedworth, Bedworth U.D.C.; 8 houses, Wainbody-av., J. T. Smith.

Coulsdon and Purley.—U.D.C. approved amended plan by S. for 100 houses on Woodland housing site.—Council approved amended elevation plans submitted by R. Costain & Sons, Ltd., for Croham Heights Estate.—Plans passed:—Morgan, Baines & Clark, 9 shops with 14 garages at rear, Chipstead Valley-rd., Coulsdon.

Darlington.—County Public Assistance Committee of Durham has under consideration to carry out

* See also List of Contracts, Competitions, etc.

alterations to institution. Wm. J. Merrett, C.S., 43, Old Elvet, Durham.—It is proposed to erect Church of St. Matthew in place of one destroyed by fire. Parochial Church Council not yet appointed architect.

Darlington.—T.C. approved:—Darlington Co-operative society, Ltd., heating chamber and oil store, Melland-st.; Westlake & Turner, 8 houses, Consciffe-rd.; J. E. Chilton, 6 bungalows, Geneva-drive; Marshall & Tweedy, alterations to premises, Theatre Royal, Northgate; H. Parvin, 6 houses, Clifton-rd. and Clifton-av.

Durham.—County E.C. approved:—Birtley New Council School (alterations), £16,000; Boldon Colliery Boys' Council School (alterations), £1,200; Hordon Council School (additions) and Monkton Council School (additions). Plans by F. Willey, F.R.I.B.A., 34, Old Elvet, Durham.

Easington Colliery (Durham).—Contract for rebuilding miners' hall destroyed by fire not yet been placed. Hays & Gray, Camden-st., North Shields, architects.

Eastbourne.—T.C. approved: Directors, East-Clarke & Worsfield, Eastbourne Pier, additions forming new buffet, Eastbourne Pier Pavilion; Corporation, electric sub-station, Granville-rd.; Corporation, electric sub-station, Darley-rd.; W. James (architect, W. R. Hamblyn; builder, W. James), store, shop premises, Victoria-drive; H. Harvey (architects, P. D. Stonham & Son), workmen's club, Beechy-av.

Edinburgh.—Garage at Liberton-gardens, Liberton. J. Taylor, architect, 67, Ratcliffe-ter.

Gainsborough.—U.D.C. received lay-out plan relating to 65 non-parlour houses presented by S. Application to be made to M.H. for sanction to borrow £21,340 for work.

Gateshead-on-Tyne.—Tenders invited by T.C. for pavilion on Derwent Crook at £500. Plans by B.E.—Joint scheme of Gateshead T.C. and Whickham U.D.C. to erect reinforced concrete bridge has advanced further stage by inviting of tenders. F. H. Patterson, B.S.

Glasgow.—Reconstruction and extension of J. & B. Johnstone's garage at Daisy-st. and corner Gartuck-st., Govanhill. J. Easton, architect, Lincoln-av., Knightswood.—Reconstruction and additions at Church of Scotland (Cunninghame), Thistle-st.; also new offices at 250, Kennedy-st., for trustees of late C. Brand. J. Reid, architect, 79, West Regent-st.—Showrooms at West Nile-st. and corner of Sauchiehall-st. H. Barnes, architect, 2 Richard-st., Anderston.

Gourock.—Property to be demolished and new building erected at Shore-st. F. Petrie, F.F.S., architect, Library-bldgs., Greenock.

Heston and Isleworth.—U.D.C. approved: W. Lacey, factory building, Hanworth-rd.; H. Allen, 2 houses, Great West-rd., Isleworth, and 19 houses, new road off Park-rd.; H. L. Bowers, 4 houses, Burlington-rd.

Hexham-on-Tyne.—Surveyor to U.D.C. been instructed to prepare plans for bus station with waiting-rooms.

Highfield.—B. of E. passed plans for R.C. school. R. Burke, 12, Grey-st., Newcastle-on-Tyne, architect.

Hinckley.—It has been decided to proceed with preparation of scheme for new police court, police station and buildings, with necessary police houses, on site of Hinckley Manor House Dispensary.

Hitchin.—U.D.C. approved: Trust Houses, Ltd., alterations and re-drainage, Sun Hotel.

Holytown.—Lanarkshire C.C. to erect 40 houses. Peter Smith, architect, Clydesdale-st., Hamilton.

Hoole.—Parochial Church Council of All Saints' (Vicar, Rev. A. T. Wise, M.A.) propose parochial hall on Newton-lane.

Irvine.—Ayrshire Territorial Association to erect for the R.S.F. drill hall.

Kettering.—R.D.C. received from Minister sanction of £165 for purchase of site for housing at Backway, Corby, and sanction also for 8 houses. Architect to proceed with preparation of plans.

Lanarkshire.—C.C. to proceed with new housing schemes for districts of Viewpark and Tannockside. P. Smith, architect, County Offices, Hamilton.

Leeds.—City Engineer been instructed to prepare plans and estimates for market extensions on Eastgate.

Leeds.—Scheme, estimated to cost between £5,000 and £6,000, will shortly be commenced to provide additional school accommodation in association with St. George's Church, Leeds. It is proposed to build an assembly hall.

Liverpool.—Plans passed by T.C.:—14 houses, Wheatcroft-rd., T. Wainwright & Son, for S. Davies & Sons; 7 houses, Booker-av., Richard Owens & Son, for John Hughes; 8 houses, Melling-rd., and 42 houses, Melling-av., W. T. Clark, for T. Percy; alteration and addition, 30-32, Bold-st., T. Arnold Ashworth, for Liverpool China & India Tea Co., Ltd.; 16 houses, Vale-rd., 8 houses, Quarry-st., and 32 houses, Linkstor-rd., J. W. Jones, builder; factory, Bemville-rd., G. Bradbury & Sons, for Wingrave, Rogers, Ltd.; stables, garage and messroom, Empress-rd., and extension to dairy, Lockesley-rd., Evan Roberts, for Liverpool Co-operative Society, Ltd.; alterations, 10, Ford-st., Kearsley & Tonge, Ltd., for Metropolitan Transport Supply Co., Ltd.; addition to factory, Chapel-gardens, A. J. Howcroft & Son, for B. Kershaw & Co., Ltd.; 14 houses, Queen's-drive, between Malton-rd. and Ayton-lane, O. Williams & Sutcliffe, for J. Lloyd Jones; 4 houses, Long-lane, and 2 houses, Sandown-park, F. W. Nicholson, for J. R. Williams; alteration to licensed premises, Great Charlotte-st., H. E. Davies, for Peat's Brewery Co., Ltd.; factory, Oakes-st., J. Worthington, for Liverpool Clothing Co.; large addition to works, Binns-rd., Elgood & Hastie, for Lord Roberts Memorial Workshops, Ltd.; large addition to Brunswick Chapel, Moss-st., Arthur Brocklehurst & Co., for Trustees of Brunswick Wesleyan Chapel.

London (Bermondsey).—Housing Committee of B.C. approved sketch plans of 42 flats and 6 shops (block No. 2) to be erected on the Odessa-st. site.—Plans passed:—H. C. Nightingale, architect, 27, King William-st., E.C.4, for R. Chambers & Co., Shad Thames, offices with caretaker's rooms over, Channel-row; J. F. Broad & Sons, 76, Alscot-rd., for Rev. S. E. Miller, St. Luke's Vicarage, Grange-rd., alteration and addition, 107, Grange-rd.

London (East Ham).—C.B. has passed plans for 5 houses, 254-262, Dersingham-av., for S. W. Bedford.

London (Fulham).—B.C. approved:—F. Pike, of W. J. Pike, Ltd., waiting-room and office building upon proposed parking-ground at Sotherton-rd.; T. Williams & Sons, addition to building, corner of Ryston-rd. and Mendora-rd.

London (Lewisham).—B.C. approved:—L. A. Culliford, lay-out of houses on Perry Hill estate, Catford; G. T. Harman, garages, etc., at corner of Upper Colfe-rd. and Shipman-rd., Forest Hill; Blaxill Bros., garages upon site approached from Neuchatel-rd., Catford; A. E. Adams, houses, Chinbrook-rd., Grove-park; C. H. Gibson, Ltd., lock-up garages, Bromley-rd.

London (Peckham).—L.C.C. is to recondition 8 houses on Peckham Park-rd. site, at £2,000.

London (Shoreditch).—B.C. instructed B.S. to prepare plans for the reconstruction of Lee-st. convenience at £250.

Lowestoft.—C.B. considering alterations to Connaught House.—Council recommend that subject to approval of plans by B. of E. application made to M.H. for sanction to borrow £400 for lavatory accommodation, new windows, boundary walls, etc., at Arnold-st. school, in accordance with plans prepared by B.S.—Plans passed:—A. E. Underwood, 9 houses, Wollaston-rd.; Chapman & Huckle, 4 bungalows, Chestnut-av., Oulton Broad.

Maltby.—U.D.C. intends to proceed as quickly as possible with 108 more houses on Woodlands estate. Approval of M.H. is being sought.

Melbourne.—R.D.C. recommend 10 more non-parlour type houses at Foxton, and that application be made to Minister.

Midlothian.—Reconstruction and additions to St. Columba Church, Blackhall. J. J. Waddell, architect, 96, Bath-st., Glasgow.

Morpeth.—Electric light to be installed in institution by County Public Assistance Committee.

Newburn.—U.D.C. approved scheme at Westerhope, where it is proposed to erect about 75 modern semi-detached houses. David Larmour, 44c, Blackett-st., Newcastle, agent to scheme.

Newcastle-on-Tyne.—Newcastle Electric Supply Co., Ltd., propose sub-station in Hayward's-yd., Cloth Market. Plans by Merz & McLellan, Carliol House.—P. L. Browne & Son, Pearl-bldgs., prepared plans for extensions at Gaumont Film Stores in St. John-st.

North Shields.—Peter Brown & Co. to rebuild offices on quayside which were destroyed by fire.

Norton (Derbys).—A. H. Glenister, 52, Greenfield-rd., Greenhill, Sheffield, propose billiard hall on land off Chesterfield-rd., Meadowhead.

Nottingham.—Rev. A. J. Bird, P.P., St. Paul's, Lenton Boulevard, propose presbytery adjoining church.

Oxford.—T.C. passed: machine store, By-pass-rd., Curtis & Horn. Queen-st.; steel-framed garage, Temple-rd., Cowley, Oxford Electric Co., Ship-st.; additions to the "Chequers," St. Thomas'a, for Hall's Oxford Brewery, Ltd.—Mr. Herbert Brazil, chairman and managing director, Timms & Co. (Oxford), Ltd., has been granted 75 years' lease of site at 30-35, Castle-st., for buildings to be erected.—Subject to M.H. sanction, T.C. propose erecting new Council school at Temple Cowley, tenders have already been obtained.

Poole.—T.C. approved: 4 lock-up garages, kitchen, store, etc., rear shops and flats, Banks-rd., Rumsby & Rodd, for Bay View Co., Ltd.; 2 pairs semi-detached houses, Alder-rd., W. J. Dacombe, for Mrs. M. E. Lee; houses, Brikey-rd., S. G. Ward; 14 houses, Sandbanks-rd., D. A. Wood.

Portarlington.—Proposal to erect bridge over Barrow at Treascon, Portarlington, at £400, adopted by Offaly C.C.

Redcar.—Contract still not placed for church hall. Plans by Kitching & Co., 21, Albert-rd., Middlesbrough.

Retford.—P.A.C. propose laundry at institution.

Rochdale.—P.A.C. propose extension of casual wards at £900.

Salford.—Sutton Trust to build 250 model flats in Seedley-rd.

Scalby.—Council approved: new street and 13 pairs of houses in Newland's-grove, Newland's-av., Ridehalgh Bros. per Wilkinson & Smith.

Scarborough.—B.E. to submit estimates for swimming baths for T.C.

Seaham Harbour.—B. of E. approved plans for Council school on Seaham Harbour Carr House estate for Durham County E.C. Plans by F. Willey, F.R.I.B.A., 34, Old Elvet, Durham.

Seaton Delaval.—C.C. acquired land for extensions to Astley central school. Plans by County Architect, Newcastle.

Sheffield.—Congregational Association to acquire site on Shiregreen estate for Congregational Church.

Shiremoor.—C.C. acquired land for Council school. W. W. Tasker, 17, Claremount-rd., Newcastle, County Architect.

Skegness.—W. T. Giles, Figure 8 Cafe, propose a skating rink at North Parade. J. Lynas, architect, South Parade, prepared plans. Cost £4,000.

South Shields.—Parks Committee recommend T.C. to expedite consideration of proposal to establish airport.—T.C. acquired land at Farnham-rd. and Egerton-rd. for housing purposes and have invited tenders for the work.—Alterations to be carried out to mental wards at Harton Institution at £800. J. Paton Watson, B.E.

Stirling.—Reconstruction and additions at Viewforth for Council offices, James Miller, architect, 15, Blythswood-sq., Glasgow.

Stockton-on-Tees.—T.C. approved schemes of E.C. for school at Newham Grange, £15,000; new department at central school, £15,000; senior school at west end; two senior schools at east end; additional department at Norton school; reconditioning of existing schools, £60,000. J. P. Wakeford, B.E.

Stourbridge.—The Licensing Justices approved:—alterations to "Mitre Inn," High-st., for Mitchells & Butlers, Ltd., Birmingham; extension to tea room and addition to 7 bedrooms at "Talbot Hotel."

Stretford.—U.D.C. passed: 5 houses, Davyhulme-rd. East, for McLellan & Abel; alterations, Lund-st., for Ratcliffe's Edible Products, Ltd.; storage shed extension, Cornbrook-rd., for Fisher-Renwick Steamers, Ltd.; offices and store, Trafford Park-rd., Manchester Ship Canal Co.; petrol filling-station, Chester-rd., for N. Fine; and store, Textilose-rd., for Textilose Manufacturing Co., Ltd.

Sunderland.—T.C. received sanction from M.H. to £520 for caretaker's house at Garden-st. School.—Funds being raised for church hall in St. Nicholas district. Cost £1,700. W. & T. R. Milburn, 17, Fawcett-st., architects.

Thornaby.—A. Harrison prepared plans for club for Tees-side Golf Club near Acklam-rd.

Thornaby-on-Tees.—Russian Oil Products, Ltd., propose works on foreshore, where they have leased land for depot.

Uddingston.—32 new houses to be erected by Lanarkshire C.C. P. Smith, architect, County Offices, Hamilton.

Wakefield.—Paton & Baldwin, Ltd., are to erect additions to mill premises in Tootall-st. Plans by Newbald & Hartley.—Borrowing powers been granted for £34,000 required for 88 houses on Darnley housing estate.—B. of E. has approved alterations and additions to Eastmoor Council schools at £10,000.

Wallsend-on-Tyne.—Bandstand at East End recreation ground.

Walton.—U.D.C. approved:—E. Durbridge, 2 pairs of semi-detached houses and 2 detached houses, New Zealand-av., Walton; A. W. Sheppard, block of 7 houses and 1 shop, Molesey-rd., Hersham.

Washington (Durham).—U.D.C. received sanction from M.H. to borrow £3,700 for land at Usworth Station and New Washington for housing purposes.

West Hartlepool.—Corporation and Hartlepool Corporation propose joint scheme for constructing outfall sewer to serve the north-west area of West Hartlepool and the West View district of Hartlepool. Cost £50,000.

West Riding.—C.C. propose to replace existing Jubilee Bridge at Thorne with bridge of steel construction.

Whitefield.—L.M.S. Railway Co. propose railway station at Bess-o'-th'-Barn.

Winston.—Wainwright & Gornall, L.R.I.B.A., 17, George-st., architects for alterations and additions to nurses' home and erection of mortuary at sanatorium for R.D.C.

Wingate (Durham).—Scheme under consideration for hotel near colliery offices.

Worthing.—T.C. approved:—13 houses, Haynes-rd., S. W. Phillips & Co., per S. C. Phillips; 6 houses, Richmond-rd., F. Sandell & Sons; 12 houses, Durrington-lane, H. P. Brazier, per E. J. Love; 49 houses to front Marlowe-rd. and Sheridan-rd., S. W. Phillips & Co.; 6 houses and 5 garages, Southfarm-rd., Parsons Bros., per M. R. Fletcher; 11 houses to front Haynes-rd., L. C. Le Maitre, A. T. W. Goldsmith; addition to "Cranleigh Court Hotel," Byron-rd., Miss H. Smith, per H. M. Potter.

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2 in. per yd. super	1 11	3 in. per yd. super	2 9
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Pit Sand	11 0	„ „
Thames Sand	11 0	„ „
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TILES

Delivered at London rate stations in full truck loads of not less than 6 tons. Per 1,000.

	f.o.r. London.
Best machine-made tiles from Broseley or Staffordshire district	£4 10 0
ditto hand-made ditto	5 3 6
Ornament'l ditto	5 8 6
Hip and valley tiles (per dozen) Hand-made	0 9 6
Machine-made	0 9 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

R.S. Joists, cut and fitted	£11 0 0
Plain Compound Girders	12 0 0
„ Stanchions	15 0 0
In Roof Work	18 0 0

MILD STEEL ROUNDS.—To London Station, per ton

Diameter.	£ s. d.	Diameter.	£ s. d.
½ in.	12 0 0	⅝ in. to ¾ in.	10 15 0
⅞ in.	11 0 0	1 in. to 2½ in.	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Standard Wrot. Mild Steel Tubes and Tubulars Sizes ⅛ in. to 6 in. %	Genuine Wrot. (Paddled) Iron Tubes and Tubulars Sizes ⅛ in. to 6 in. %	Standard Fittings Sizes ⅛ in. to 6 in. %	Standard Flanges Sizes ⅛ in. to 6 in. %
Gas ...	65	52½	57½	70
Water ...	61½	48½	52½	65
Steam ...	57½	45	47½	60
Galv. gas	52½	40	47½	60
Galv. water	47½	35	42½	55
Galv. steam	42½	30	37½	50

*C.I.—HALF-ROUND GUTTERS—London Prices ex Works

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	10d.	7½d.	2½d.
3½ in.	10½d.	8½d.	2½d.
4 in.	10½d.	9½d.	2½d.
4½ in.	11½d.	10½d.	2½d.
5 in.	1/1½	11½d.	3½d.

*O.G. GUTTERS.

3 in.	1/0	10½d.	2½d.
3½ in.	1/0½	10½d.	2½d.
4 in.	1/1½	10½d.	2½d.
4½ in.	1/2½	1/0½	2½d.
5 in.	1/5	1/2½	3½d.

*RAIN-WATER PIPES, &c.

Per yd. in 6 ft. Pipe.		Bends, stock Branches, angles, stock angles.
2 in. plain.....	1/2½	9½d. 1/2
2½ in. „	1/3	10½d. 1/4
3 in. „	1/6½	1/1½ 1/6½
3½ in. „	1/11	1/4½ 1/11½
4 in. „	2/2½	1/7½ 2/4½

*The above R.W. Goods prices are subject to an advance of 5% from October 29th, 1929.

L.C.C. COATED SOIL PIPES—London Prices ex Works

	Pipe, angles, stock angles.	Bends, stock Branches.
	s. d.	s. d.
2 in. per yd. in 6 fts. plain	1 11	1 6½ 1 10½
2½ in. „	2 2½	1 8½ 2 4
3 in. „	2 4½	1 10½ 2 9½
3½ in. „	2 7	2 4 3 3
4 in. „	2 11	2 7½ 3 9

L.C.C. COATED DRAIN PIPES—London Prices ex Works

	Pipe, angles, stock angles.	Bends, stock Branches.
	s. d.	s. d.
2 in. per yd. in 9 ft. lengths	3 4	4 3 6 5
4 in. „ cwt. qr. lbs.	1 1 20	4 7 5 2 8 10
5 in. „	1 2 22	6 0 9 0 14 3
6 in. „	2 0 6	6 8 10 11 18 1

Gaskin for jointing 41/- per cwt.

IRON—	Per ton in London. £ s. d.	£ s. d.
Common bars	10 10 0 to	11 0 0
Staffordshire Crown Bars Good merchant quality	10 15 0 to	11 10 0
Staffordshire Marked Bars	14 0 0 ...	15 0 0
Mild Steel Bars	9 10 0 ...	10 0 0
Steel Bars, Ferro-Concrete quality, basis price	8 0 0 ...	9 0 0
Hoop iron, basis price	11 0 0 ...	12 0 0
Galvanised ...	27 0 0 ...	28 0 0
Soft Steel Sheets, Black— Ordinary sizes, to 20 g. ...	11 0 0 ...	11 10 0
„ „ „ 24 g. ...	12 0 0 ...	13 0 0
„ „ „ 26 g. ...	14 0 0 ...	15 0 0
Sheets Flat Best Soft Steel, C.R. and C.A. quality— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.....	13 10 0 ...	14 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	14 10 0 ...	15 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.....	17 10 0 ...	18 10 0

No. 1 quality £4 per ton extra.

Flat and Galvanised Corrugated Sheets— Ordinary sizes 6 ft. to 9 ft. to 20 g.	13 0 0 ...	14 0 0
Ordinary sizes 6 ft. to 9 ft. to 22 g. and 24 g.	14 10 0 ...	15 10 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	16 10 0 ...	17 10 0
Sheets Galvanised Flat, Best quality— Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	18 0 0 ...	19 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	20 0 0 ...	22 0 0
Best Soft Steel Sheets, 26 g.	21 10 0 ...	23 0 0
Cut Nails, 3 in. to 6 in. ...	15 0 0 ...	16 0 0

(Under 3 in. usual trade extras.)

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

COPPER.

	s. d.
Seamless Copper tubes (basis) ..... per lb.	0 9½
Strong sheet ..... „	0 10
Thin ..... „	0 11
Copper nails ..... „	1 0
Copper wire ..... „	0 11

PLUMBERS' BRASS WORK.
Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.
½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
29/- 45/- 76/- 153/- 246/- 510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.
½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
41/6 62/- 92/- 174/- 300/- 588/- per doz.

RIVER PATTERN SCREW DOWN MAIN FERRULES.
½ in. ¾ in. 1 in.
39/6 60/- 116/6 per doz.

CAPS AND SCREWS.
1¼ in. 1½ in. 2 in. 3 in. 3½ in. 4 in.
7/6 10/- 14/- 23/- 30/- 42/- per doz.

DOUBLE NUT BOILER SCREWS.
½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
7/6 11/- 17/- 29/- 36/- 63/- per doz.

BRASS SLEEVES.
1¼ in. 2 in. 2 in. 3½ in. 4 in.
10/- 12/- 20/- 24/- 31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.
½ in. ¾ in. 1 in. 1¼ in. 1½ in.
35/- 56/- 98/- 162/- 228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.
1¼ in. 1½ in. 2 in. 3 in.
6 lbs. P. traps ... 33/- 41/- 56/- 101/- per doz.
8 lbs. S. traps ... 35/- 45/- 66/- 126/- „

TIN.—English Ingots, 1/7 per lb. SOLDER.—Plumber's 9d., Tinmen's 10d., Blowpipe 11d. per lb.

*The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS—(*cont.*)

LEAD, &c.

(Delivered in London.)

	£	s.	d.
Lead—Sheet, English, 4 lb. and up	24	0	0
Pipe in coils	25	0	0
Soil pipe	28	0	0
Compo pipe	28	10	0

Note.—Country delivery, 20s. per ton extra; lots under 2 cwt. 8s. per cwt. extra, and over 2 cwt. and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 5s. cwt. extra.

Old lead, ex London area, at Mills ..... per ton	£14	10	0

PAINTS, &c.

		£	s.	d.
Raw Linseed Oil, in pipes ..... per gallon ...		0	1	9
,, ,, ,, in barrels ... ,, ...		0	1	11
,, ,, ,, in drums ... ,, ...		0	2	2
Boiled ,, ,, in barrels ... ,, ...		0	2	3
,, ,, ,, in drums ... ,, ...		0	2	5
Turpentine in barrels ..... ,, ...		0	4	6
,, in drums (10 gals.) ,, ...		0	4	8
Genuine Ground English White Lead, per ton		48	10	0

(In not less than 5-cwt. casks.)
Extra for 1-cwt. kegs over 5-cwt. casks is 5/0 cwt.

Genuine White Lead Paint.
"Father Thames." "Nine Elms."
"Park." "Supremus." "St. Paul's."
"Morganwyte," "Polacco." "J"
Brand, and other best brands (in 14-lb. tins) not less than 5 cwt. lots. per ton delivered ... £ 64 s. 10 d. 0

Red Lead, Dry (packages extra) ... per ton	33	0	0
Best Linseed Oil Putty ..... per cwt.	0	13	6
Size. XD quality ..... /kn.	0	3	0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

	Per ft.		Per ft.
15 oz. fourths ...	2½d.	32 oz. fourths	7½d.
15 ,, thirds ...	3½d.	32 ,, thirds.....	9½d.
21 ,, fourths ...	3½d.	Obscured Sheet, 15 oz. ...	3½d.
21 ,, thirds ...	4½d.	,, 21 oz. ...	4½d.
26 ,, fourths ...	4½d.	Fluted, 15 oz. 7d., 21 oz....	9½d.
26 ,, thirds ...	7½d.	Em'lled, 15 oz. 4½d., 21 oz.	6d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED plate in CRATES OF STOCK SIZES. Per ft.

⅛ Rolled plate	4½d.
¼ Rough rolled	5½d.
Rough rolled	5½d.
Figured Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White	5½d.
Ditto, tinted	8d.
Rolled Sheet	4½d.
White Rolled Cathedral	4½d.
Tinted do.	6½d.

Cast plate is same price as rough rolled.

"VITA" GLASS.	Per foot. s.	d.
Clear sheet—not exceeding 1 foot	1	0
Do. do. 2 feet.....	1	3
Do. over 2 feet	1	9
Polished plate—not exceeding 1 foot	1	6
Do. not exceeding 2 feet.....	3	0
Cathedral—not exceeding 1 foot	1	0
Do. larger sizes	1	6
Horticultural—for greenhouses, etc. Sizes up to 24 inches by 18 inches or not exceeding 8 feet	1	0
3/16 in. Wired Georgian Design. Sizes up to 108 inches long by up to 24 inches wide.....	2	6

VARNISHES, &c.

		Per Gallon. £	s.	d.
Oak Varnish	Outside	0	14	0
Fine ditto	ditto	0	16	0
Fine Copal.....	ditto	0	18	0
Pale Copal.....	ditto	1	0	0
Pale Opal Carriage	ditto	1	4	0
Best ditto	ditto	1	12	0
Floor Varnish	Inside	0	18	0
Fine Pale Paper	ditto	0	18	6
Fine Copal Cabinet	ditto	1	2	6
Fine Copal Flatting.....	ditto	1	0	0
Hard Drying Oak	ditto	0	18	6
Fine Hard Drying Oak	ditto	0	19	6
Fine Copal Varnish	ditto	1	0	0
Pale ditto	ditto	1	12	0
Best ditto	ditto	1	2	6
Best Japan Gold Size.....		0	12	0
Best Black Japan		0	10	0
Oak and Mahogany Stain (water).....		0	12	0
Brunswick Black		0	7	0
Berlin Black		0	14	0
Knotting (patent)		1	5	0
French and Brush Polish		0	17	0
Liquid Dryers in Terebene		0	9	0
Cuirass Black Enamel		0	7	0

New Buildings at Poole.

Between January 1 and December 31, 1931, new buildings approved by the Poole Town Council numbered 1,148, of which 659 were represented by dwellings, 243 by garages, and nine by public buildings. 540 dwelling-houses were completed and 203 more put under construction during the year. The Borough Engineer is Mr. E. J. Goodacre, M.Inst.C.E.

Timber Stores, Bromley-by-Bow.

Messrs. W. Lusty and Sons, Ltd., have just finished further additions covering about three-quarters of an acre to their timber stores at Russia Wharf. The architect is Mr. S. B. Caulfield, F.R.I.B.A., 15, Baker-street, W.1.

THE SCOTTISH BUILDER

NEW BUILDINGS

Arbroath.—Housing.—Arbroath Housing Committee reported that the Burgh Surveyor had submitted a plan of proposed lay-out for 60 houses on a site at Hayshead-road and Hayswell-road, and it had been agreed to submit the plan to the agents of the superior and the feuar for their approval. The Burgh Surveyor had been instructed to prepare a sketch of a site at Lovers' Loan for submission to the superior of Cairnie. Instruction had also been given to the Burgh Surveyor to survey a site at Union-park, and to ascertain if it was suitable for the erection of houses.

Ayr.—Housing.—It was intimated at Ayr Town Council meeting that the Department of Health had authorised acceptance of tenders amounting to £57,151 for the erection of 208 houses at Lochside site.

Bo'ness.—Housing.—Plans for the completion of the housing scheme at Deanfield, by the erection of four blocks of flatted houses of four dwellings, each with three apartments, and a double cottage of three apartments to each have been passed by Bo'ness Dean of Guild Court.

Dundee.—Buildings.—Plans and sections of the following proposed new buildings, etc., have been lodged at the Office of the City Engineer:—Arbroath-road—bungalows for Mr. W. Black (Mr. W. M. Patrick, architect, 26, Yeaman-shore); Barrack-road—additions for Dundee Royal Infirmary (Messrs. Johnston & Baxter, architects, 114, Seagate); Hilltown—w.c.s for Trustees of Alexander Calder (Messrs. Ross & Buchanan, architects, 189, Pitt-street, Glasgow); Nesbitt-street—bungalows for Mr. W. Black (Mr. W. M. Patrick, architect); Strathmartine-road—w.c.s for Trustees of Alexander Calder (Messrs. Ross & Buchanan, architects); Strathmore-avenue—shed for Messrs. Donaldson & Norrie (Mr. N. T. Stewart, architect, 64, Reform-street); West Port—w.c.s for Trustees of Margaret Milne (Mr. J. H. Langlands, architect, 31, Murraygate).

Galashiels.—Houses.—The Town Council are inviting tenders for the erection of six blocks of houses at Tweed-road. Messrs. J. and J. Hall, architects, Galashiels.

Hawick.—Housing.—The T.C. has agreed to borrow £18,500 from the Public Works Loan Board to meet the cost of land and erection of houses comprising the first instalment of the Lynnwood housing scheme.

Largs.—Housing.—Subject to the approval of the Department of Health, the T.C. has decided to proceed with 12 houses.

ANNUAL REVIEW OF WAGES IN SCOTLAND.

The following statement has been published from 19, Vincent-place, Glasgow, over the signatures of Mr. D. M'Cowan Hill (Employers' Secretary) and Mr. A. M'Taggart (Operatives' Secretary):—

The Scottish National Joint Council for the Building Industry on January 18 resumed consideration of the wages payments now in force under the Scottish National Working Rules, with the view of deciding what, if any, variation of wages should be made in accordance with the Sliding Scale Agreement, which provides that rates of wages should be varied annually to the extent of one halfpenny per hour in respect of each complete average variation of not less than 6½ points. The figures respecting "Cost of Living" published monthly in the "Ministry of Labour Gazette" show the average percentage increase for the period January to December, 1931 (both months inclusive), to be 47, *i.e.*, 3 points below the figure (50) to which the standard rates of wages set out in the existing Scottish National Agreement are assumed to correspond. The standard rates now in force are one halfpenny per hour above those set out in the Scottish National Agreement. The Council resolved:—

That on and from the first day of February, 1932, the rates of wages payable to craftsmen and labourers engaged in the building industry shall be decreased by one halfpenny per hour, provided always that the rate payable to labourers in any grade shall not be less than 75 per cent. of the craftsmen's rate.

Resulting from the application of this decision, the authorised grade rates payable from February 1 are as under:—

Craftsmen	1/6½	1/6	1/5½	1/5	1/4½	1/4	1/3½	1/3
Grade Classifications	A	A¹	A²	A³	B	B¹	B²	B³
Labourers	1/2	1/1½	1/1½	1/0½	1/0½	1/-	/11½	/11½

[The usual Wages Table is held up this week for revision.—Ed.]

L.M.B. Sports Association.

We give below results and table in connection with the Football League of this Association to Saturday, February 13:—

Results.

Jan. 16.	Higgs ...	5	Trocoll ...	0
Jan. 23.	Blue Circle...	2	Higgs ...	6
	Trocoll ...	2	Holloway ...	2
Jan. 30.	Downs ...	1	Trocoll ...	9
Feb. 6.	Downs ...	0	Blue Circle...	0
Feb. 13.	Blue Circle...	0	Trocoll ...	1

Table.

	P.	W.	D.	L.	Goals. F.	A.	Pts.
Higgs ...	13	11	1	1	58	14	23
Trocoll ...	12	8	2	2	35	18	18
Holloway ...	5	3	1	1	10	4	7
Downs ...	13	3	1	9	11	53	7
Scafco ...	11	3	—	8	12	20	6
Blue Circle..	12	2	1	9	16	33	5

Specifications for Road Materials.

Three new British Standard specifications for road materials have recently been issued by the British Standards Institution (formerly the British Engineering Standards Association). The general adoption of the specification for granite and whinstone kerbs, channels, quadrants, and setts, No. 435, by highway engineers, will do much, it is hoped, to further the economical production of kerb in this country by enabling the quarries to concentrate upon certain defined sizes and finishes. Three alternative standard dressings are provided, it being considered that this number should be adequate for the general demands of highway engineers; the standard sections of kerb comprise a series ranging from 4 in. by 9 in. to 8 in. by 12 in., with eight standard sizes of setts. The two other specifications now published are the first of a series dealing with emulsions and cold asphalt surfacing. They are, respectively, for Asphaltic Bitumen Road Emulsion, No. 433, and Cold Asphalt Macadam, No. 434, and are based upon drafts prepared by the Road Emulsions and Cold Bituminous Roads Association. Copies of these specifications (Nos. 433, 434 and 435-1931) may be obtained from the Publications Department, British Standards Institution, 28, Victoria-street, S.W.1, price 2s. 2d. each, post free.

The Electrical "Blue Book."

The 50th edition of Ernest Benn, Ltd.'s, "Blue Book for the Electrical Trades" has now been published (Bouverie House, E.C.4, 25s. net). This large volume, which is excellently indexed, is a very complete record of those many and diverse facts and pieces of information that the electrical engineer requires to know, while there are certain sections, such as the chapter on Municipal Loans, Interest and Sinking Fund tables, regulations for overhead lines, etc., which should be of considerable assistance to the local authority. Very useful is the "Manufacturers' Who's Who," and an interesting feature is that the scope of the book is not confined to England but extends to the Colonies and foreign countries as well.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	9	9
Add if in clay	,, ,,	1	0
Add for every additional depth of 6 ft.	,, ,,	0	6
Planking and strutting to trenches	per foot super	0	4
Do. to sides of excavation, including shoring	,,	1	0

CONCRETOR.

Portland cement concrete in foundation 1 to 6	per yard cube	27	0
Add if in underpinning in short lengths	,, ,,	6	0
Add if in floors 6 in. thick	,, ,,	2	6
Add if in beams	,, ,,	3	0
Add if aggregate 1 : 2 : 4	,, ,,	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	,,	2	0

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	30	0	0
Add if in stocks	,,	7	10	0
Add if in Staffordshire blues	,,	22	0	0
Add if in Portland cement and sand	,,	1	5	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

Neat flat struck or weathered joint	,, ,,	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork:—				
Fair external in half brick rings	,, ,,	0	0	10
Axed in stocks	,, ,,	0	1	9
Rubbed and gauged jointed in putty camber or segmental	,, ,,	0	6	0

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	,,	0	1	0
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks		4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarte -inch vertical damp course	,, ,,	9	6
Three-quarter-inch on flats in two thicknesses	,, ,,	6	0
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	,,	1	0

MASON.

York stone templates fixed	per foot cube	13	0
York stone sills fixed	,, ,,	22	0
Bath stone and all labour fixed	,, ,,	10	6
Beer stone and all labour fixed	,, ,,	15	0
Portland stone fixed	,, ,,	20	0
Chilmark stone fixed complete	,, ,,	17	6

SLATER.

Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do. 20 in. × 10 in. Do. Do.	,,	80	9
Do. 24 in. × 12 in. Do. Do.	,,	90	0

CARPENTER AND JOINER.

Fir framed in plates	per foot cube					4	3
Do. joists	,, ,,					4	9
Do. roofs, floors and partitions	,, ,,					5	3
Do. trusses	,,					7	9
		¾"	1"	1¼"	2"		
Deal rough close boarding	per sq.	33/6	38/-	43/-	70/-		
Flat centering for concrete floor, including struts or hangers	,,					50	0
Do. to beams	per ft. sup.					0	9
Centre for arches	,,					1	6
Gutter boards and bearers	,,					1	0
FLOORING.		¾"	1"	1¼"	1½"		
Deal-edges shot	per sq.	—	42/6	50/-	57/6		
Do. tongued and grooved	,,	—	47/-	56/-	64/-		
Do. matchings	,,	44/-	49/-	—	—		
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/-	2/6		

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	,, ,,	2	1
Add for fitting and fixing	,, ,,	0	3
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights; average size	,,	3	9

DOORS		1¼"	1½"	2"
Two-panel square framed	per ft. sup.	2/1	2/3	2/5
Four-panel Do.	,,	2/4	2/6	2/9
Two-panel moulded both sides	,,	2/6	2/9	2/11
Four-panel Do. Do.	,,	2/9	2/11	3/2

CARPENTER AND JOINER—continued.

FRAMES.

				s.	d.
Deal wrot moulded and rebated	per foot cube			14	0
		1"	1¼"	1½"	
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11	
Deal shelves and bearers	,,	1/4	1/6	1/9	
Add if cross-tongued	,,	2d.	2d.	2d.	

STAIRCASES.

Deal treads and risers in and including rough brackets	1" 2/1	1¼" 2/4	1½" 2/9	2" —	2½" —
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail average, 3 in. × 3 in.	,, ,,	6	0
Add if ramped	,, ,,	12	0
Add if wreathed	,, ,,	24	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	15	3
Plain compound girders	,,	18	0
Do. stanchions	,,	20	9
In roofwork	,,	26	6

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/4	1/7	1/9	2/-
Ogee Do. Do.	,,	1/6	1/9	2/3	2/9
Rain-water pipes with ears	,,	1/6	2/4	—	—
Extra for shoes and bends	each	3/4	4/11	—	—
Do. stopped ends	,,	1/6	1/10	2/9	3/3
Do. nozzles for inlets	,,	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	40	0
Do. Do. in flats	,,	39	0
Extra labour and solder in coated cesspools	each	6	9
Welt joint	per ft. run	0	6
Soldered seam	,, ,,	1	3
Copper nailing	,, ,,	0	3

		½"	¾"	1"	1¼"	2"	4"
Drawn lead waste	per ft. run	1/1	1/7	1/10	3/-	3/6	—
Do. service	,,	1/6	2/-	2/5	3/6	—	—
Do. soil	,,	—	—	—	—	—	6/-
Bends in lead pipe	each	—	—	—	—	3/-	6/6
Soldered stop ends	,,	1/-	1/4	1/9	2/6	3/2	—
Red lead joints	,,	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	,,	2/6	3/-	3/6	4/4	5/6	7/9
Lead traps and cleaning screws	,,	—	—	—	12/7	17/6	—
Bib cocks and joints	,,	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints	,,	15/4	17/2	25/8	64/-	—	—

PLASTERER.

			s.	d.
Render, float and set in lime and hair	per yard sup.		2	3
Do. Do. Sirapite	,, ,,		2	6
Do. Do. Keen's	,, ,,		3	6
Add saw lathing	,, ,,		1	7
Add metal lathing	,,		2	6
(Not including hangers or runners, etc., for suspended ceilings.)				
Portland cement screed	,, ,,		2	2
Do. plain face	,, ,,		3	3
Mouldings in plaster	per 1 girth		0	1½
One-and-a-half granolithic pavings	per yard sup.		5	3

GLAZIER.

21-oz. sheet plain	per foot sup.	0	7½
26-oz. Do.	,, ,,	0	10
Obscured sheet	,, ,,	1	1
¼-in. rolled plate	,, ,,	0	9
¼-in. rough rolled or cast plate	,, ,,	0	10
¼-in. wired cast plate	,, ,,	1	3

PAINTER.

Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	,, ,,	0	7
Plain painting, 1 coat	,, ,,	0	9
Do. 2 coats	,, ,,	1	2
Do. 3 coats	,, ,,	1	9
Do. 4 coats	,, ,,	2	4
Graining	,, ,,	2	3
Varnishing twice	,, ,,	1	9
Sizing	,, ,,	0	3
Flatting	,, ,,	0	7
Enamel	,, ,,	1	1
Wax polishing	per foot sup.	0	6
French polishing	,, ,,	1	2
Preparing for and hanging paper	per piece, 2/- to 4/-		

*These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TRADE NEWS

An Appointment.

We are informed that Mr. Thomas Ormiston Callender, the son of Sir Thomas Octavius Callender, deputy chairman and managing director of Callender's Cable and Construction Co., Ltd., has also been appointed a director of the company.

Dover County School for Boys.

With regard to this school, illustrated in our last issue, we are asked by Messrs. A. H. Herbert & Co., Ltd., to state that they were the sub-contractors for the roof tiling, supplied and fixed complete. The tiles used were supplied by them from Messrs. Quested's works.

New Type of Electric Fittings.

The General Electric Co., Ltd., bring to our notice a new range of fittings recently introduced by them. These are known as G.E.C. "Roanoid" electric-light fittings. In these, "Roanoid" takes the place of the ordinary metal work. It is a self-coloured material guaranteed to withstand all climatic conditions. It is non-inflammable, non-conductive, odourless, colour-fast, and possesses a permanent polished finish of fine lustre, which can always be kept bright by the wipe of a duster. G.E.C. "Roanoid" fittings are made in three finishes—namely, ivory, mottled horn and white, which harmonise well with most surroundings.

Change of Address.

Messrs. Kersons Manufacturing Co., Ltd., makers of the Kerson "Woodcock" and "Snipe" switches and other electrical accessories, announce that, having now completed the building of their new factory at Kingsbury-road, Minworth, Birmingham, all correspondence should now be addressed there instead of to their old factory, Wainwright-street, Birmingham. Their telegraphic address remains the same, viz., "Kersons, Birmingham," but their telephone number is now Ashfield 1163-4. For the guidance of callers it may be stated that the new Kerson factory is in the immediate neighbourhood of the Birmingham British Industries Fair Buildings, and that from the terminus of the Pipe Hayes trams it is only a matter of a few minutes' walk.

A New Concrete Mixer.

The British Steel Piling Co., Ltd., announce a new 14/10 concrete mixer, the "Wonder," for which a capacity of 120 cu. yds. and upwards daily is claimed. The machine, while carrying no needless weight, is strong and rigid, and is fitted with a "Lister" petrol engine and a side loader designed to take input batch discharges at an angle of 55 deg. A further advantage is the "Wonderquick" automatic water-measuring tank, which is designed to ensure the correct amount of water. A leaflet fully descriptive of the machine can be obtained from 54a, Parliament-street, S.W.1, as can another publication (No. 143) giving details of the "Epic" mobile crane, which lifts up to 1 ton and yet can be mounted on a lorry, and, as such, should be most useful for the builder and contractor.

A Concrete Sign.

A concrete sign, believed to be unique, 30 ft. high and 30 ft. long, has been erected at the works of Lafarge Aluminous Cement Co., Ltd., manufacturers of Ciment Fondu, the high early-strength cement. The works are at West Thurrock, on the main Southend-road, and it is here that Ciment Fondu has been manufactured by an entirely British staff for the past six years. The sign takes the form of a mammoth arrow, and was specially designed by Messrs. L. G. Mouchel and Partners, and constructed in Ciment Fondu by Messrs. John Mowlem and Co., Ltd. Weighing over 25 tons, and being attractively painted in silver, orange, white and black (Berger paints), this aid to visitors forms an unusual advertisement for this cement.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
‖ Denotes *accepted subject to modifications*.
¶ Denotes *accepted by H.M. Office of Works and H.M. War Office*.

Adlington.—Completion of church and erection of a tower as a War Memorial at the Parish Church, for the Parochial Council. Mr. Robt. Martin, L.R.I.B.A., Diocesan Surveyor, 90, Deansgate, Manchester:—

*L. Fairclough, Ltd., Adlington, near Chorley. (Estimated cost: £3,500.)

Banchory.—Six blocks of 2 houses at The Glebe, High-street, for the T.C. Mr. James Michie, architect and surveyor. Quantities by the architect:—

Mason—*Frank Murison.
Carpenter—*Alxr. Hadden & Sons, Newtonhill.
Slater—*Geo. L. Grant.
Plumber—*William Reid.
Plasterer—*Geo. L. Grant.
Painter—*John Sands.
(Remainder of Banchory.)

Bedlington.—Public convenience at Bedlington Station, for the U.D.C. Mr. J. W. Pooley, surveyor:—

*George Towers, Blyth £385

Bootle.—40 houses on the east side of Fernhill-road, for the T.C.:—

*J. W. Jones & Sons, Ltd. (Liverpool) £13,120

Bootle.—5 ft. high corrugated steel pale fence along the proposed street line of Dunning's Bridge-road and the proposed Bye-Pass-road from Dunning's Bridge-road to the public footpath, together with one double and one single entrance gate, for the T.C.:—

*Bayliss, Jones & Bayliss, Wolverhampton £748 18 6

Boston.—Isolation hospital, for the T.C. and R.D.C. Joint Hospital Committee. Mr. G. D. Cockrill, Borough Surveyor:—

*H. H. Vamplew, Boston. (Estimated cost: £12,000.)

Burnside.—Four houses at Calderwood-road. Messrs. J. & J. Craig & Sons, architects, 219, St. Vincent-street, Glasgow:—

*James Laidlaw & Sons, Ltd., Playfair-street, Glasgow.

Cardiff.—New parcels depot, booking office, and other works, at general station, for the directors of the G.W.R. Co. Chief Engineer, Paddington Station, W.2:—

*F. Holcombe & Sons, Corporation-road, Cardiff.

Carlisle.—186 additional houses, for the City Council. Mr. Percy Dalton, A.R.I.B.A., City Surveyor, 18, Fisher-street:—

*John Laing & Son, Ltd., Carlisle:
*J. & R. Bell, Ltd., Carlisle £59,312

Carlisle.—Alterations to club premises in Nelson-street for Building Committee of Denton Holme Conservative Club:—

*J. & R. Bell, Ltd., Carlisle.

Carshalton.—Sliding folding doors and roller shutters to four of the cottage blocks of Queen Mary's Hospital for Children, Carshalton, for the L.C.C.:—

	Teak shutters and folding doors.	Alternative price for steel doors, shutters.
Dennison Kett & Co., Ltd.	£1,930	£1,434
Haskins	1,925	1,740
A. L. Gibson & Co., Ltd.	—	1,865
S. W. Francis & Co., Ltd.	1,573	1,573
Lift & Hoist Co., Ltd.	1,550	1,170
*Shutter Contractors, Ltd., Unica Works, Southey-road, Tottenham, N.15	1,450	1,250

Chesterfield.—Additions to club headquarters and institute at New Whittington, for the New Whittington Social Institute, Ltd.:—

*C. E. Gaunt, Ltd., Chesterfield.

Cork.—Building of a city hall and municipal offices, for the T.C.:—

†John Sisk & Sons, Cork £39,870

Coxhoe.—New institute. Mr. M. H. Kellett, architect:—

*G. W. Lazenby, Ltd., Ferryhill £1,731

Croydon.—Showrooms, in Frith-road, for Messrs. Kennards. Messrs. George Baines & Son, FF.R.I.B.A., A.I.Struct.E., architects, 121, Victoria-street, Westminster, S.W.1:—

Arcade and shop windows—*Messrs. Courtney, Pope & Co., Ltd., Amhurst Park Works, Tottenham, N.15.

Derbyshire.—Electric wiring and installation of electric light at the infirmary buildings, Belper, for the P.A.C. Mr. George W. Widdows, F.R.I.B.A., County Architect, Council Offices, Derby:—

*C. Slack, Mansfield.

Dudley.—10 houses, Cradley-road, site No. 7, Neyerton, for the C.B. Mr. F. H. Gibbons, Borough Engineer and Housing Director:—

*Butler Bros., Birmingham £3,865

Edinburgh.—136 three-apartment houses, comprising first development of Saughton housing scheme, for the T.C. Mr. E. J. MacRae, A.R.I.B.A., City Architect:—

*Wm. Arnott, MacLeod & Co., Russell-road, Edinburgh	£13,239 7 11
*Wm. Louden, Bellside Saw Mills, Cleland	9,266 0 6
*Burn & Baillie, Edinburgh	4,994 12 8
*W. B. MacNair, Armadale	3,398 0 9
*P. Kelly & Sons, Edinburgh	3,870 17 2
*A. Cunningham & Co., Edinburgh	380 0 0
*Wm. Cunningham, Edinburgh	953 3 11

Glasgow.—Demolition and reconstruction at Ingram-street and junction of Glassford-street, for Messrs. Glen & Co. Mr. James Taylor Thomson, architect, Bath-street:—

*W. Lightbody & Son, 42, Sydney-street, Glasgow

Glasgow.—Reconstruction and additions at Union-street, for Messrs. Ardath, Ltd., tobacco manufacturers. Mr. Joseph Emberton, architect, 136, Regent-street, London, W.1:—

*Bathartcroft, Ltd., Lower Bristol-road, Bath.
Demolition and brick works, etc.—*R. Rogerson & Co., Ltd., Smith-street, Scotstoun, Glasgow.

Glasgow.—Reconstruction work on Corporation property at Saltmarket. Mr. Thomas Somers, architect, City-chambers:—

*Joseph Stevenson, 93, Pitt-street, Anderston, Glasgow.

Glasgow.—Reconstruction and extension at St. Enochs-square, for Commercial Bank, Ltd., of Edinburgh. Mr. James McCallum, architect, 14, George-street, Edinburgh:—

Principal contractor—*Greys Ferro Concrete Co., Ltd., 109, Douglas-street, Glasgow.
Joinery, carpentry, lathing and ironmongery—*James Dunbar & Co., Arlington-street, Glasgow.
Plumber—*J. D. Morrison & Co., 15, Robertson-street, Glasgow.
Marble and granite—*Allan & Sons, Ltd., Piershill Marble Works, Piershill, Edinburgh.
Heating engineering—*Ashwell & Nesbit, 103, Douglas-street, Blythswood, Glasgow.
Electrical installation, etc.—*Johnstone, Park & Co., Ltd., Oswald-street, Glasgow.

Grays.—6 pairs of small-type houses, for the U.D.C.:—

*W. E. Walsham, Grays £2,244

Hamilton.—Reconstruction and extension at the Institution, Hamilton Home, for the Lanarkshire C.C. Mr. John Stewart, architect, Albert-street, Motherwell:—

Mason and brick—*John C. Burns & Co., 200, Quarry-street, Hamilton.
Carpentry, joinery, glazier and ironmongery—*A. Thomson, Wright, Larkhall.
Slater, plaster and cement—*Wilson & Hendry, 35, Portland-street, Hamilton.
Plumber and gasfitter—*Samuel Lauder, Sanitary Engineer, Uddingston.

Hindolveston.—New parish church. Messrs. Buckingham & Berry, F.S.I., F.R.I.B.A., architects and surveyors, 43a, Prince of Wales'-road, Norwich:—

J. Youngs & Son, Norwich	£2,491 0 0
J. F. Dagless, Walsingham	2,370 0 0
Arthur Vincent & Sons, Berghapton	2,336 0 0
R. G. Carter, Drayton	2,291 0 0
*J. Beckett, Hindolveston	2,230 0 0
H. Bullen & Sons, Cromer	2,195 0 0
T. Gill & Son, Norwich	2,180 0 0
Neal Bros., North Elmham	2,166 0 0
Fisher & Sons, Fakenham	2,064 4 2

Hoole.—50 houses in Hoole-lane, for the U.D.C. Mr. W. Deane, surveyor:—

†T. Warrington & Sons, Ellesmere Port £14,995

London.—Demolition of the property on part of the site required for block "D" of the Grosvenor housing scheme, for the Westminster City Council:—

Westminster Wharfage Co., Ltd.	£1,078 0
Horace A. Cunis	757 0
Greenham Demolition Co., Ltd.	610 0
H. Sabey & Co., Ltd.	444 10
Nelson Wise	431 0
Henry Boyer, Ltd.	398 12
B. Goodman, Ltd.	328 0
Frederick Wise	287 0
*Willment Brothers, Baltic Wharf, Waterloo Bridge, S.E.	250 0

(All of London.)

London.—For block "E" of the Grosvenor housing site, for the Westminster City Council:—

James Carmichael (Contractors), Ltd.	£96,512
Higgs & Hill, Ltd.	88,250
Holloway Bros. (London), Ltd.	86,611
J. W. Falkner & Sons, Ltd.	86,196
Prestige & Co., Ltd.	84,874
Humphreys, Ltd.	83,997
Albert Monk	83,670
Hall, Beddall & Co., Ltd.	81,980
*Geo. Walker & Slater, Ltd., 32, St. James's-street, S.W.1.	79,900

(All of London.)

Huyton-with-Roby.—Houses and shops in development of the estate at Page Moss Farm, for the Freehold Estate Development Co., Ltd., 32, St. James-st., London, S.W.1. Mr. W. J. Fraser, surveyor, 48, The Arcade, Lord-street, Liverpool:—

*J. Gerrard & Sons, Ltd., Manchester.

Ipswich.—For erection of the Greenwich junior mixed school for 400 junior children, and the practical instruction rooms at the Nacton-road Council school for 200 senior scholars, for the T.C.:—

*G. A. Kenney & Sons £9,818

Kerry.—Repairs to Killarney Courthouse, and erection of wall, railings and gates at the library, Castleisland, for the C.C.:—

(a)—*J. Harmon £260
(b)—*J. O'Connor 283

Kilbarchan.—Four houses at Tandlehill-road:—

*James Y. Keenie, Ltd., Johnstone.

Lancashire.—Bridge over the railway near Hest Bank, for the C.C. Mr. Peter Schofield, County Surveyor and Bridgemaster, County Offices, Fishergate, Preston:—

*J. M. Firth & Sons, Todmorden £15,500

Lancaster.—Branch shop at Torrisholme, for Lancaster and District Co-operative Society, Ltd. Mr. R. W. Jackson, L.R.I.B.A., architect, 43, Church-street:—

*W. & J. Peill, Lancaster.

Leeds.—Warehouse at junction of Bridge-street and Templar-street, for Messrs. L. Leventhall, Wholesale Grocers, Lady-lane:—

*Pickard & Co.

Leeds.—Elementary school at St. George's-road, for the Church Managers of St. Georges and the E.C. Mr. F. Broadbent, architect, Calverley-street:—

‡W. M. Coates & Sons.

Lincoln.—Additions to a cottage and alterations and repairs to farm buildings, at Corporation Farms, Helmswell, for the T.C. Mr. S. C. Baggott, City Engineer and Surveyor:—

Building work—*G. Turner & Son, Saxilby, Lincoln.
Roadworks.—*Lincolnshire Spraying & Contracting Co., Ltd., Brigg

¶London.—Tenders accepted by H.M.O.W. for the week ending February 15.—

Ossett Post Office—alterations—O. Atkinson & Sons, Harrogate
Willesden Post Office—alterations—W. H. Watts, 43, High-road, N.W.10.
Harwich Custom House—alterations—E. Saunders, Hill-crest, Dovercourt.
Belfast Parliament Buildings—bronzework—H. H. Martyn & Co., Ltd., Sunningend, Cheltenham.
Shoreditch County Court—heating—Brightside Foundry & Engineering Co., Ltd., Chicheley-street, S.E.

London.—Thames floods prevention works in the Fulham district, for the L.C.C.:—

Howard Farrow, Ltd.	£8,933 11 0
Whittaker Ellis, Ltd.	7,272 12 5
A. Jackaman & Son, Ltd., Slough	6,743 16 8
G. Tate & Son	6,074 13 8
Holland & Hannen and Cubitts, Ltd.	5,676 14 7
John Mowlem & Co., Ltd.	5,504 14 4
*L. J. Speight, Ltd., Kingsway, W.C.2	5,025 8 9

(Chief Engineer's estimate: £5,724 1s. 6d.)
(Remainder of London.)

London.—Adaptation of Harley college premises for use as relief offices and a non-residential training centre, for the L.C.C.:—

Rowley Bros. (1929), Ltd.	£3,992
A. E. Symes, Ltd.	3,925
Vigor & Co. (Poplar), Ltd.	3,845
J. & C. Bowyer, Ltd.	3,824
Samuel Blow, Ltd.	3,800
W. J. Cearns	3,785
George Barker	3,726
R. Woollaston & Co.	3,679
W. J. Dixon & Sons	3,647
George Keetch & Sons	3,580
*W. J. Clemens, Bridge-road, Stratford, E.15	3,299

(Architect's revised estimate: £3,681.)

Providing and fixing the hot-water heating and supply apparatus at the premises—
*Brightside Foundry & Engineering Co., Ltd., Chicheley-street, S.E.1 ..... £689

London.—New cartage office at Paddington Goods Station, for the G.W.R. Chief Engineer, Paddington Station, W.2:—

*W. Walkerdine, Ltd., 115a, Walmer-road, North Kensington, W.10.

London.—Thames flood defences on the Council's properties, for the Fulham B.C. Borough Surveyor:—

M MacLeod & Co., Ltd.	£8,655 0 0
J. Mears, Ltd.	7,670 0 0
J. Shelbourne & Co., Ltd.	7,210 0 0
John Mowlem & Co., Ltd.	6,857 11 2
Geo. Wimpey & Co., Ltd.	5,795 4 3
A. E. Farr & Co.	5,740 0 0
C. J. Anderson & Co.	5,169 6 9
R. Dixon & Sons	5,060 0 0
Borough Engineer	4,422 0 0
W. J. Marston & Sons	4,196 10 0
City Construction Co., Ltd., E.3	4,089 16 3*

* Amended to £3,925 16s. 3d.
(All of London.)

London.—External painting and repair work at Eastern Hospital, for the L.C.C.:—

W. T. Ricketts & Sons, Ltd.	£4,450
Payne Bros., Watford	4,400
Stoneley & Co.	4,242
C. Bundock, Ltd.	3,944
Geo. Jones & Son	3,900
Sykes & Son, Ltd.	3,895
H. Meckhonik	3,709
F. Troy & Co., Ltd.	3,622
Edward Proctor & Sons	3,593
R. Woollaston & Co.	3,580
W. J. Clemens	3,547
Headstone Construction Co., Ltd.	3,246
A. J. Graham, Ltd.	3,216
H. Lawrence & Sons	3,080
*Chas. Berger, 12, Cambridge-place, Paddington, W.2.	2,939

(Chief Engineer's estimate: £4,000.)

Maidstone.—Shopfront, interior, etc., at premises, 16, Week-street:—

*A. Edmonds & Co., Ltd., Constitution-hill, Birmingham.

Maltby.—New Infants' Council school on Tickhill-road, for the West Riding C.C. Mr. H. Wormald, A.R.I.B.A., Education Architect, County Hall, Wakefield:—

Builder, joiner, plumber and plasterer—*A. Gregory & Son, Ltd., Castleford.
Slater—*A. Thompson & Sons, Liversedge.
Painter—*J. Bedford, Rothwell.
Whitesmith.—*B. Tordoff & Son, Liversedge.
Asphalter.—*J. Cooke & Son (Hudd.), Ltd., Huddersfield.

(Amount of contracts, £5,990.)

Manchester.—New shopfronts, etc., at 22 and 24, Gt. Ancoats-street, Ancoats, for Messrs. W. Timpson, Ltd., Gt. Ducie-street:—

*J. Curtis & Son, Ltd., Leeds.

Manchester.—Church hall on corner of Moorgate-avenue and Ormskirk-avenue, for Rev. Roland E. T. Allen, 74, Norman-road, Rusholme and Churchwardens:—

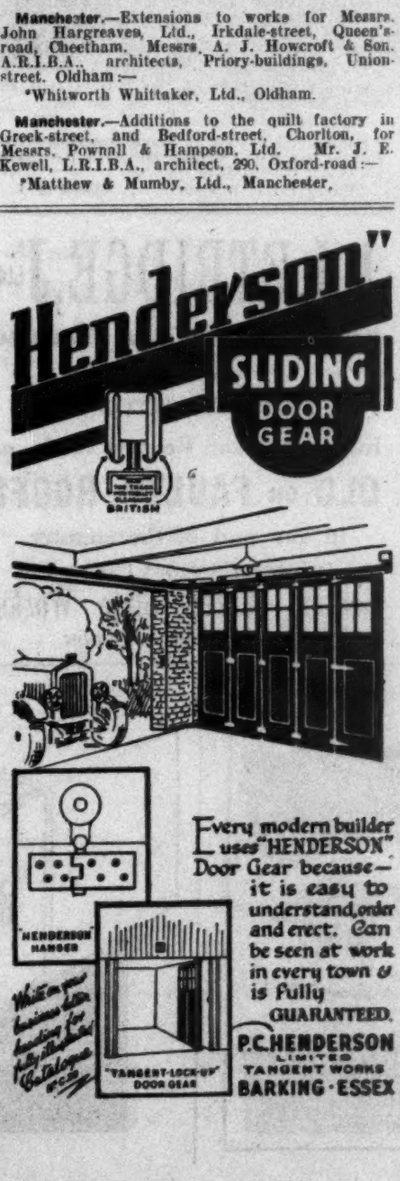
*G. Lee & Co., Ltd., Manchester.

Manchester.—Extensions to works for Messrs. John Hargreaves, Ltd., Irkdale-street, Queen's-road, Cheetham. Messrs. A. J. Howcroft & Son, A.R.I.B.A., architects, Priory-buildings, Union-street, Oldham:—

*Whitworth Whittaker, Ltd., Oldham.

Manchester.—Additions to the quilt factory in Greek-street, and Bedford-street, Chorlton, for Messrs. Pownall & Hampson, Ltd. Mr. J. E. Kewell, L.R.I.B.A., architect, 290, Oxford-road:—

*Matthew & Mumby, Ltd., Manchester.



Manchester.—Offices and cotton store, Trafford Park-road, Trafford Park, for the Manchester Ship Canal Co., Ltd., King-street:—

Builders—*J. Gerrard & Sons, Ltd., Manchester.
Steelwork—*Edward Wood & Co., Ltd., Manchester.

Margate.—1,114 lin. yds. or thereabouts of wrought-iron fencing and 3 double gates, for the T.C. Mr. Ernest A. Borg, Borough Engineer and Surveyor:—

Hyder & Sons, Plaxton	£825 10 0
Wilks Bros. & Co., Ltd., Sheffield	666 1 0
S. W. Farmer & Sons, Ltd., London	609 0 3
Gorton & Blackburn, Ltd., Atherton	593 0 0
W. Hayward & Sons, Ltd., Wolverhampton	587 5 8
Quenby, Fry & Co., Ltd., London	560 12 7
W. H. Allen, London	550 4 3
A. & J. Main & Co., Ltd., London	525 7 6
H. & C. Davis & Co., Ltd., London	523 16 0
The Exors. of W. Blacker, Stalybridge	512 17 6
Hill & Smith, Ltd., Brierley Hill, Staffs	507 4 0
W. Bain & Co., Ltd., Coatbridge	506 11 6
Dobbing & Co., Sunderland	482 6 2
T. W. Palmer & Co., London	481 3 6
Croggon & Co., Ltd., London	475 9 6
W. A. Baker & Co. (1910), Ltd., Newport (Mon.)	464 16 4
H. N. Dodds & Sons, Wallsend-on-Tyne	451 13 6
W. A. Parker & Co., Workington	442 4 6
Roberts & Co. (Wednesbury), Ltd., Wednesbury	430 1 6
Bayliss, Jones & Bayliss, Ltd., London	414 0 6
J. Elwell, Ltd., Oldbury	410 5 6
W. Gratria & Sons, Manchester	409 8 0
*T. Blackburn & Sons, Ltd., Preston Ironworks, Preston	364 8 3

Motherwell.—New building in Muir-street, Motherwell Cross. Messrs. Cowie & Miller, architects, Clelland-road, Wishaw, Motherwell:—

Excavation, brick and mason works, etc.—*Scott & Co., Dalburn-street, Motherwell.
Electrical installation, etc.—*Bryson & Graham, Brandon-street, Motherwell.
Slater work etc.—*J. & J. Thomson, 90, Merry-street, Motherwell.
Plaster work, etc.—*George Bryson, Lochend street, Motherwell.
Joinery, carpentry and ironmongery works—*Thomas Miller, Hamilton-street, Motherwell.
Plumber work, etc.—*Robert W. Muir, 69, Brandon-street, Motherwell.

Netherlee.—93 four-roomed houses at new roads off Clarkson-road, Netherlee:—

*MacTaggart & Nickel, Ltd., 65, Bath-street, Glasgow.

Ripley.—24 houses in Peace Hill-road, for the U.D.C. Mr. G. W. Bird, surveyor:—

*Harris Bros., Marehay, Derby ..... £288 per house.

Salford.—Additions at the secondary school, Convent, Adelphi, for Society of the Faithful Companion of Jesus, Adelphi House. Mr. W. R. Watson, architect, 22, Dowanside-road, Glasgow. Quantities by Mr. G. A. Potts, 41a, Victoria-buildings, Manchester:—

Builders—*W. Gornall & Sons, Ltd., Salford.
Joiner—*Stanley Porter, Bolton.
Painting—*James Ferguson & Co., Salford.
Plastering—A. & S. Wallace, Newton Heath.

Sandbach.—Additions to the Broom Mill, for Messrs. G. H. Heath & Co., Ltd., Pickford-street, Macclesfield. Messrs. Medcalf & Medcalf, FF.R.I.B.A., architects, 3, Stanley-street, Liverpool:—

‡W. A. Gale, Liverpool.

Shardlow.—Houses, for the R.D.C.:—

*Perks & Sons, Long Eaton—30 houses, Draycott, £9,407; Chaddesden, 16 houses, £5,614; Borrowash, 12 houses, £3,826; Littleover, 24 houses, £7,700; Ockbrook, 12 houses, £3,860; Aston-on-Trent, two houses, £670.
*Harris Bros., Marehay, 16 houses, Little Eaton, £5,430.

Shipley.—Electric installation at the new public offices in course of erection, for the U.D.C. Mr. Harry Haigh, electrical engineer, Somerset House, Otley-road:—

*Gordon Binns, Shipley.

Solihull.—56 non-parlour type houses on the Cranmore Farm estate, Shirley, for the R.D.C.:—

*Morris Jacombs & Sons, Small Heath, Birmingham £18,815

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Painter—*T. Taylor.
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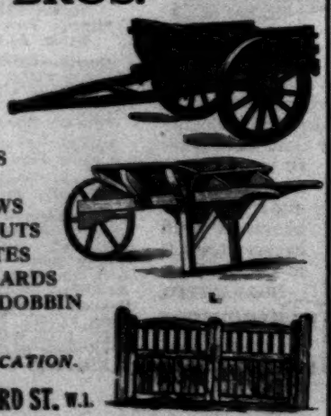
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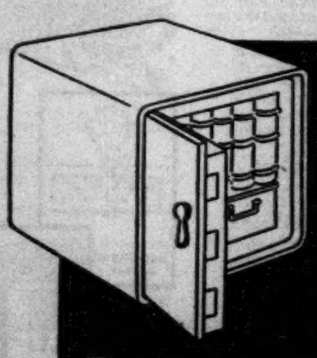
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